SELF-IDENTITY AND CONSUMPTION:

A STUDY OF CONSUMER PERSONALITY, BRAND PERSONALITY, AND BRAND RELATIONSHIP

Hazel Hsiu-chen Huang

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In memory of

David

Acknowledgement

The past four years have been the most worthwhile, exciting, and stimulating years in my life. I have learned more than the theoretical foundations of consumer research. I have learned about patience; I have learned about tolerance of loneliness; I have learned about laughing when life is bitter and crying when life is desperate; I have learned about the importance of process as well as outcome.

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Finally, Thank God, I’m through!

Declaration

I hereby declare that I have not used before or have published before any material contained in this thesis.

I also declare that it is my own work and confirm that this thesis has not been submitted for degree at another university.

Abstract

This thesis investigates the relationship between self-identity and consumption by discussing the conceptual and measurement issues of consumer personality, brand personality, and brand relationship. The investigation is based on the theories of personality, self-identity, and interpersonal relationship.

The self-identity theories (Belk 1988; Cooley 1964; James 1890; Mead 1935) suggest that consumers may use brands to construct, maintain, and enhance their self-identities. Drawing from the literature of personality and self-identity, this thesis repositions the concept of personality for the context of consumption and refers it to self-identity (self-perception) rather than behaviour. This repositioning indicates that consumer personality and brand personality can be examined by the same personality concept. On the basis of the self-identity theories, a positive relationship is expected to exist between consumer personality and brand personality. Moreover, the interpersonal relationship theories (Aron *et al.* 1991; Rodin 1978; Thibaut and Kelley 1959) indicate that the relationship partners become a part of the self-identity in a close relationship. Therefore, it is hypothesised that the closer the brand personality and consumer personality perceived by the consumers (consumer-brand congruence), the better the brand relationship quality.

This study applies a quasi-experiment from a field setting to examine the relationship among consumer personality, brand personality, and brand relationship. A 2 (high and low involvement) x 2 (high and low feeling) factorial design is featured to explore the role of involvement and feeling in the relationship of self-identity and consumption. A total number of 468 observations reveals that consumer and brand personality are strongly and positively related. The greater the consumer-brand congruence is, the better the brand relationship. Minimal moderating effects of involvement and feeling to the relationships between consumer personality and brand personality and between consumer-brand congruence and brand relationship quality are observed. These findings suggest that consumers use brands from various product categories in different situations to maintain their self-identities.

The study attempts to make contributions on the theoretical, methodological, and managerial levels. Theoretically, it clarifies the concepts of consumer personality and brand personality, and reaffirms the concept of brand relationship. In this way, some measurement issues of self-identity and brand personality are resolved. The findings suggest that brand personality can be used as a tool to investigate global markets and to facilitate market segmentation and communication. Finally, the limitations of the thesis are recognised and directions for future research are offered.

Chapter 1. Introduction to the Thesis

1.1 Introduction to the Chapter

It has long been believed that consumers consume, in a way, to construct, maintain, and enhance their self-identities. This thesis examines the relationship between self-identity and consumption. On the basis of the theories of personality, self-identity, and interpersonal relationship, the relationship is examined by discussing the conceptual and measurement issues of consumer personality, brand personality, and brand relationship.

This chapter presents an overview and justification of the study. The conceptual and methodological foundations of the research are introduced. On the ground of critical realism, a quasi-experimental design from a field setting is used to investigate the relationship between self-identity and consumption in various situations, which are featured by products with different levels of involvement and feeling. The study applies the personality theories to resolve the measurement issues of consumer personality and brand personality, self-identity theories to address the relationship between consumers and brands, and interpersonal relationship theories to examine the relationship between consumer-brand congruence and brand relationship quality.

This research is justified by addressing the research objectives and expected contributions. It aims to (i) clarify the theoretical position of personality in consumer research, (ii) re-examine the conceptual and measurement issues of brand personality,

(iii) advance the knowledge of brand relationship, and (iv) explain the roles of involvement and feeling in the relationship between self-identity and consumption. The theoretical, methodological, and managerial contributions will emerge from the discussion of the expected research findings. Finally, the organisation of the thesis is outlined.

1.2 An overview of the research

1.2.1 Conceptual foundation of the research

On the basis of the personality theories, self-identity theories, and interpersonal relationship theories, the current study examines the relationship among consumer personality, brand personality, and brand relationship.

The personality theories include the psychodynamic perspective, the behavioural (social-cognitive learning) perspective, the humanistic perspective, and the trait perspective. These different perspectives are taken into account to define personality for the current study. Although different perspectives stem from different philosophical positions of the mind-body split (environmental influences versus heredity), all perspectives have come to an interactionist agreement, implicitly or explicitly, that personality should be studied with environmental influences. Thus, personality, in this thesis, is defined as an individual's perception of the configuration of his cognition, emotion, and motivation, which activates behaviour and reflects how he adjusts to the environment by incorporating his life experience (Allport 1937; Murray 1938; Triandis and Suh 2002). Although the existence of personality traits based on biological foundations can be arguable, the current study does not focus on or enter into the debate of the existence of personality traits. That is an area left to the psychologists, psychiatrists, or philosophers. To social scientists in general, and to consumer researchers in particular, the perceptions of individuals (consumers) are of more importance and interest in understanding and explaining their brand choice. Whilst the importance of the unconscious proposed by the psychodynamic perspective is recognised, it is more crucial to understand how individuals articulate (consciously!) their behaviour (Allport 1967, p.14). This articulation may be post-hoc rationalisation (i.e. an individual's perception of 'true' reasons for behaviour), which can be used to further shape the individuals' behaviour (Elliott 1998). Therefore, it is the manner in which the individuals perceive their personalities that may help explain their behaviour regarding their self-identities.

According to James (1890), the self exists when he knows that he exists (p.226). As a result, 'I', 'me', and 'my' characterise the self. This is consistent with what Belk (1988) meant "we are what we have (p.160)" or as Dittmar (1992) explained "I shop, therefore I am (p.3)." Consumption is used as a resource to construct identity (Elliott and Wattanasuwan 1998). However, the identity is not constructed in a social vacuum, and human beings have a need for social acceptance. Cooley (1964) elaborated on social acceptance by focusing on positive and negative feelings resulting from behaviour (p.247). Positive feelings help an individual to reinforce his behaviour, whereas negative feelings help to modify it. These feelings are the individual's perception of how others see him. Turner *et al.*'s (1987) self-categorisation theory, blended with Mead's (1934) view of self-identity and Tajfel's

(1982) view of social identity, suggests that individuals aim at optimising the meanings they perceive to be important in order to enhance their self-identities.

On the other hand, "[interpersonal] relationships shape one's conceptions of the self (Aron 2003, p.443)." According to Thibaut and Kelley's (1959) interdependency theory, during the course of interaction with the relationship partner, the self becomes to resemble his partner more (p.124-125). The interaction effect on the self results from behavioural confirmation given by the relationship partner (Darley and Fazio 1980) and from the fact that a relationship partner is included in the self (Aron *et al.* 1991). Thus, 'my' relationship partner becomes a part of me, which is, again, traced back to James's self-identity theory.

While Leary and Tangney (2003) suggest personality as a good concept to capture the meaning of the self, Tesser (2002) argues that personality *is* a representation of the self. Therefore, personality is used to examine the self. Self-report personality is the perception (consciousness) of the individual himself and it is important in understanding the construction of this individual's self-identity. In relation to the examination of the concept of consumption-used-to-construct-self-identities, the metaphors – brand personality and brand relationship – are used to associate with consumer personality.

1.2.2 Methodology

This study takes the philosophical position of critical realism. Critical realism argues that social reality is real, but it can only be known in an imperfect manner (Corbetta 2003, p.14-19). Based on this position, the study expects to explain the phenomena it sets out to observe by causal relationships, and expects to generalise the observation to the proposed conceptual framework on the basis of probability theories by using statistical analysis. It is, therefore, deductive in nature, and its aim is the testing of theory.

A research design of a quasi-experiment from a field setting is selected to examine the propositions of the study. Prior to conducting the main study, four different product categories are selected to represent different levels of involvement and feeling. These product categories are laptop computers (high involvement-low feeling), jeans (high involvement-high feeling), soft drinks (low involvement-high feeling), and washing-up liquids (low involvement-low feeling). In order to comply with the purpose of theory testing and to maximise the sensitivity of the statistical results, a relatively homogenous sample is selected. According to Calder, Phillips, and Tybout (1981), the purpose of theory testing is to generalise (explain) the observation of the conceptual framework beyond the research setting. Thus, as long as a sample is relevant to the theory, it constitutes a test of that theory (Kruglanski 1973). Moreover, random samples can off-set the interaction effects of the factors and increase error variances (Cook and Campbell 1976). The effect of using a random sample may increase the possibility of making a false conclusion and decrease the sensitivity of the statistical results. A homogenous sample is selected, and the samples are drawn from British Caucasian undergraduate students at the University of Warwick, who have been living in the U.K. more than sixteen years.

1.3 Research justification

1.3.1 Research objectives

The research objectives aim at advancing knowledge with regard to consumers using consumption to construct, maintain, and enhance their self-identities. Four main gaps in the literature are identified. The first gap is the unclear theoretical position of personality in consumer research. The second gap is the ambiguous role of brand personality in marketing. The third gap is the underdeveloped concept of brand relationship. The final gap rests in how consumers use brands to represent their self-identities in various situations.

First of all, the theoretical position of personality in consumer research is unclear. The consumer personality research was popular in the 1960s and 1970s. However, several disappointing results revealed that personality may not have an important position in predicting consumer behaviour (Kassarjian 1971), and, therefore, they discouraged researchers from studying further. While the self-image congruency theory focusing on consumers using consumption to construct self-identity has gained much attention from 1980s onwards (Auty and Elliott 1997, 2001; Berger and Heath 2007; Elliott 1994; Elliott and Wattanasuwan 1998; Hogg and Michell 1996; Kleine, Kleine, and Kernan 1993; Schouten 1991; Sirgy 1982), early disappointing research on consumer personality seems to have clouded the use of the term 'personality' in their investigations. However, the quantitative research methods still used the lexical approach developed from personality trait theories to examine consumers and brands. Only, they avoided mentioning personality. Instead, they claimed that the adjectival descriptors used to examine self-identity and brands were taken from brand image or adverts. However, it is suspicious that brand image is able to encompass the concept of self-identity. Thus, the problematic lexical approach applied has rendered the results doubtful. On the other hand, the psychologists have started to argue that the self-concept may be best captured by personality (Leary and Tangney 2003; Tesser 2002). This argument has strengthened the need for a repositioning of consumer personality in relation to the self-identity studies.

The second gap is concerned with the role of brand personality. Brand personality has gained popularity since Aaker's (1997) classic development of a brand personality scale. Following Aaker's scale development, most brand personality studies focused on developing their own versions of brand personality scales to suit various contexts, such as charity organisations (Venable *et al.* 2005) and retailers (d'Astous and Lévesque 2003). If not developing a scale for brand personality, then the research endeavoured to discover a 'favourable' brand personality (Ang and Lim 2006; Freling and Forbes 2005a; Krohmer, Lucia, and Bettina 2006). This type of discovery often lacked the support of the existing theories.

On the other hand, although some criticisms of Aaker's scale appeared in the literature (Azoulay and Kapferer 2003), none of the research has yet examined it thoroughly. The main criticism is identified at the conceptual level; that is, the definition of brand personality does not reflect the concept of personality in psychology. However, since brand personality is used as a metaphor to simulate what personality a brand would have if it were a person, the concept of personality must be installed. Moreover, if the concept of personality can be transferred from human beings to brands, the structure of brand personality should replicate the consumer personality structure. If consumer personality and brand personality can be measured by the same means, the self-image congruency model can legitimately bring these two together by applying the self-identity theories. Thus, the clarification of brand personality can contribute to studying the relationship between self-identity and brand choice.

Thirdly, the concept of brand relationship needs more examination. This concept was first proposed by Fournier (1994; 1998) to characterise the relationship between person and brand as an interpersonal relationship. Like brand personality, brand relationship is a metaphor of brand-as-a-person. However, this metaphor involves different issues from brand personality. Some researchers strongly doubt that consumers in general are able to imagine having an interpersonal relationship with their brands (Bengtsson 2003). This suspicion is submitted for examination. The self-identity theories and interpersonal relationship theories indicate that individuals tend to identify with their relationship partners in a close relationship. Therefore, if the results suggest a positive relationship between consumer-brand congruence and brand relationship, the doubt about whether or not brand relationship is a suitable metaphor can be removed, and the position of brand relationship may have a new future.

Finally, the study examines the role of involvement and feeling in the relationship between self-identity and consumption. Some researchers have argued that a single product or brand is unable to represent all aspects of one's self-identity (Belk 1988; Kleine, Klein, and Kernan 1993; Solomon and Assael 1987). Rather, an individual's self-identity may be better captured by various products or brands. However, the dynamics of the products and brands studied by past research was limited. Past research investigated cars (Birdwell 1968; Grubb and Hupp 1968; Grubb and Stern 1971) and various fast-moving consumer products, such as coffee, lotion, and wine (Belch and Landon 1977; Dolich 1969; Sirgy *et al.* 1991). An explicit justification in choosing these products was often absent from these studies. This thesis proposes to categorise the products according to the levels of involvement and feeling on the basis of the FCB grid (Ratchford 1987; Vaughn 1980, 1986). Involvement is defined as "a person's perceived relevance of the object based on inherent needs, values, and interests (Zaichkowsky 1985, p.342)." Although the concept of involvement has been related to self-identity (Day 1970; Sherif and Cantril 1947; Zaichkowsky 1985), most empirical evidence has only investigated involvement in relation to information processing (Celsi and Olson 1988; Park and Moon 2003; Rothschild 1975), advertising (Andrews, Durvasula, and Akhter 1990; Petty and Cacioppo 1981b; Petty, Cacioppo, and Schumann 1983; Rothschild 1979; Tyebjee 1979a), or brand commitment (Beatty, Kahle, and Homer 1988; Coulter, Price, and Feick 2003; Traylor 1981; Warrington and Shim 2000), not self-identity. Similarly, feeling refers to the expressive presentation of products (Mittal 1988, p.505), but the association between feeling and self-identity remains at a conceptual level (Elliott 1998) without empirical support. According to Ratchford (1987), the motives of feeling include ego gratification (i.e. self-concept fulfilment (Mittal 1988, p.505)), social acceptance, and sensory enjoyment (p.26). However, the research of feeling has focused on advertising (Erevelles 1998), particularly in information processing (Claeys, Swinnen, and Abeele 1995) and preference formation (Zajonc 1980; Zajonc and Markus 1982). Research on the association between self-identity and feeling is scarce. Therefore, this study, on the basis of the self-identity theories, examines the influence of involvement and feeling on the relationship among consumer personality, brand personality, and brand relationship.

1.3.2 Expected contributions

The expected contributions of this study are threefold. The study is expected to contribute on the theoretical, methodological, and managerial levels.

Potential theoretical contributions

The main theoretical contribution of the current study is to substantiate the relationship between self-identity and consumption. This relationship is established by clarifying the concepts of consumer personality, brand personality, and brand relationship and by associating these three constructs on the basis of the self-identity and interpersonal relationship theories. Moreover, the role of involvement and feeling is examined to provide additional support for how consumers use brands to construct, maintain, and enhance their self-identities across different situations.

Qualitative research has documented evidence of the relationship between self-identity and consumption (Holt 1995; Thompson and Haytko 1997; Thompson and Hirschman 1995a). However, quantitative research has encountered two main barriers. The first barrier is a lack of consensus of the self-identity concept, and the second barrier is a lack of an equivalent concept to associate an individual's self-identity with brand image. On the basis of the latest argument from the psychology literature (Leary and Tangney 2003; Tesser 2002), this study proposes to reposition personality and use personality to capture self-identity. Moreover, it proposes to re-examine brand personality, which is an analogy of consumer personality. Thus, the repositioning of the personality concept and the re-examination of the brand personality concept may ensure the legitimacy of the applications of personality in the self-identity studies in consumer research.

By applying the same personality concept to consumers and to brands, the relationship between self-identity and consumption can be examined by two models, namely, a regression model and a consumer-brand congruence model.

The regression model is used to examine how well consumer personality is able to predict the brand personalities of their favourite or most-frequently-used brands. On the basis of the self-identity theory, a positive relationship between consumer and brand personality is expected. This positive linkage between consumer and brand personality explains that consumers use brands to construct, enhance, and maintain their self-identities.

On the other hand, the consumer-brand congruence model, also known as self-image congruence model in Sirgy's (1982, p.289) terminology, is determined by the difference between consumer personality and brand personality. This difference indicates how closely the consumers resemble themselves with their brands. This model can be examined in its own right. Moreover, it can be used to associate with brand relationship. On the basis of the interpersonal relationship theories, individuals tend to possess a better relationship with the relationship partners who are similar to them (Aron 2003; Aron, Aron, and Norman 2001; Darley and Fazio 1980; Thibaut and Kelley 1959). Thus, by relating consumer-brand congruence to brand relationship, a positive relationship is anticipated. This positive relationship may affirm the validity of the brand relationship metaphor.

The final theoretical contribution lies in the knowledge of involvement and feeling added to the relationship between self-identity and consumption. Even though it is recognised that a single product cannot represent the wholeness of the self (e.g. Kleine *et al.* 1993), previous research did not consider product differences when examining the relationship between self-identity and consumption. The concepts of involvement and feeling are related to self-identity, but have not yet been examined in relation to self-identity and brand choice. They can be used to investigate their effects on consumer-brand congruence and brand relationship in their own right. Moreover, the exploration of involvement and feeling may facilitate the understanding of the construction of self-identity via consuming different products by inspecting their moderating effects on the relationships between consumer personality and brand personality and between consumer-brand congruence and brand relationship. It is expected to ascertain that, although self-identity is multifaceted, the perceptions of brand personality are positively related to consumer personality, regardless of the levels of involvement and feeling. The same minimal effect is expected to be observed between consumer-brand congruence and brand relationship. These potential relationships suggest that consumers use brands from various products (indicating various situations) to construct, maintain, and enhance their self-identities.

Potential methodological contributions

At the methodological level, the study is expected to reconcile the measurement issues relating to the consumers' self-identities and brand personality.

Consumer researchers have been interested in investigating the relationship between self-identities of consumers and their consumption. However, unsuitable measurements were used. Although some psychologists have indicated that self-identity may be best captured by personality (Leary and Tangney 2003; Tesser 2002), consumer researchers have been discouraged from using personality by the disappointing results from early consumer personality studies (Kassarjian 1971). Even though more appropriate personality inventories have been developed for applying across disciplines (such as Costa and McCrae 1992; Goldberg 1992; Saucier 1994), most consumer researchers are still driven away by this 'personality-phobia.' Thus, the repositioning of personality in the consumer research proposed by the current study may encourage the use of the readily available personality inventories developed by the psychologists to examine consumers' self-identities.

The second methodological issue is concerned with brand personality. Various scales of brand personality have been established since Aaker's (1997) classic development of brand personality. Although the establishment of a brand personality scale has stimulated much research in this area and shed light on the concept of brand personality, the core concept of personality has been neglected. The current study proposes that if brand personality is a metaphor to simulate human personality, the structure of brand personality should be the same as that of human personality. Moreover, brand personality should be able to be measured by the same items that are used to measure human personality. If this is the case, the need for brand personality scales across different contexts may not be necessary. Much effort can be saved, and readily available and good personality inventories can be borrowed from psychology.

More importantly, consumer-brand congruence can be determined and the relationship between self-identities and brand choice may be examined.

Potential managerial contributions

The potential managerial implications rest mainly on brand personality. By measuring brand personality by the same means used to measure consumer personality, the implications are twofold.

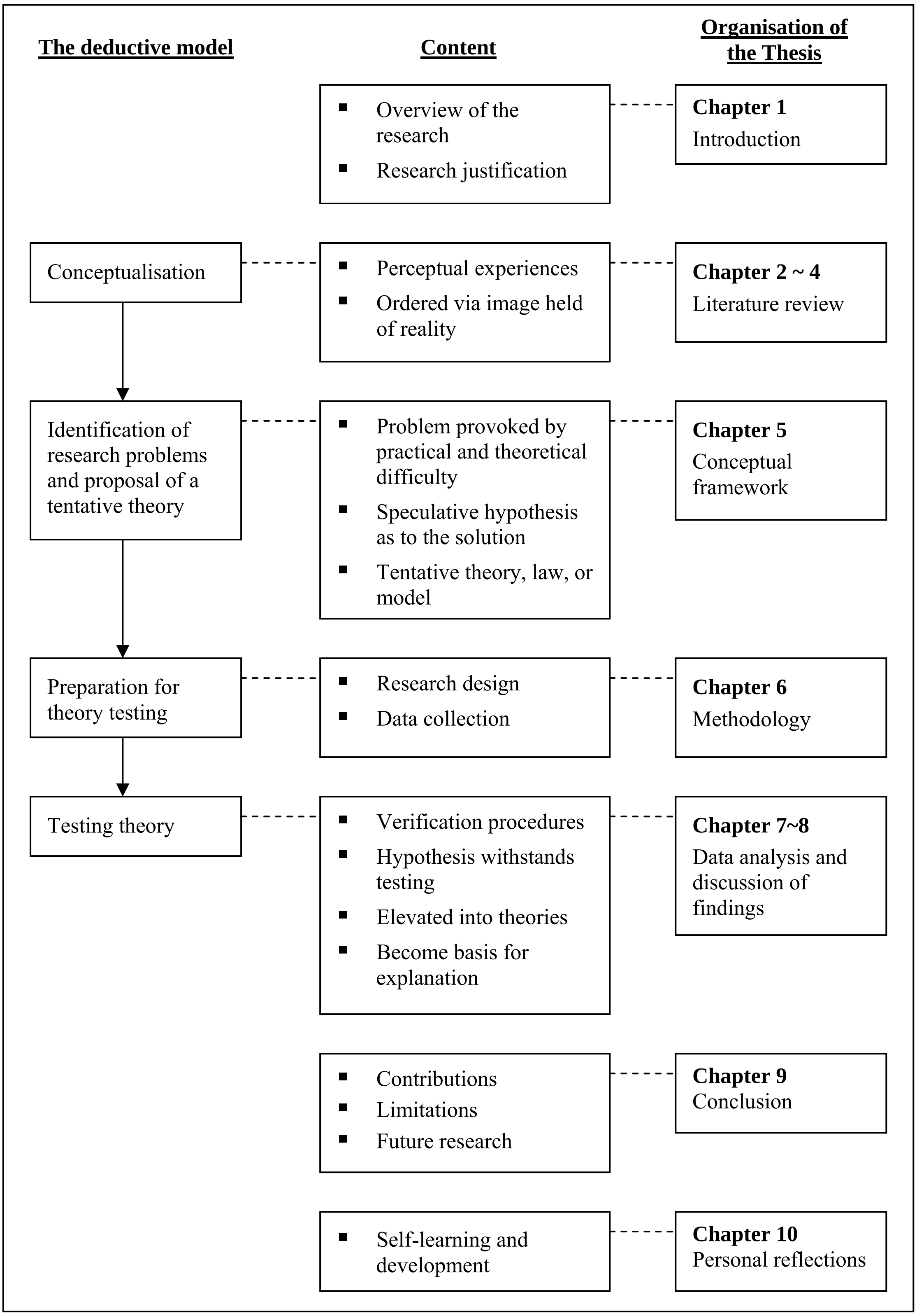
The first implication is concerned with the understanding of brand personality conveyed by a strong brand. Brand personality can be used as a segmentation tool to distinguish one brand from others. Moreover, it can be used as a guideline for the development of marketing activities. Past research attempted to find a ‘favourable’ brand personality (Ang and Lim 2006), but the theoretical support for what types of brand personality account for ‘favourable’ is still undeveloped. This study may provide some insights for the development of favourable brands on the basis of the self-identity theories. When consumers are able to identify themselves with the brands (consumer-brand congruence), the brand personality then becomes favourable to the consumers. Moreover, consumers maintain a consistent identity relationship with their brands. Therefore, the marketing practitioners are advised to examine what identity relationship their users have with their brands. Knowing what identity relationship the consumers wish to maintain, the practitioners can develop marketing communications and activities to cultivate their brands in that direction.

The second implication is related to the development and assessment of global marketing activities. The Big Five personality structure has been successfully replicated across fifty-six countries (Schmitt *et al.* 2007, p.201), while the structure of brand personality developed by Aaker's (1997) conception has not been consistent in all settings (Aaker, Benet-Martinez, and Garolera 2001; Caprara, Barbaranelli, and Guido 2001; Sung and Tinkham 2005; Venable *et al.* 2005). Global marketing is one of the main tasks for the modern marketers. If brand personality can be measured by human personality and the result display similarity with human personality, it may be replicated across different nations. This result may enable marketing practitioners (as well as academic researchers) to conduct cross-cultural studies, which may facilitate comparison across countries and help develop their global brand strategy.

1.4 Organisation and structure of the thesis

The organisation of this thesis adopts O'Shaughnessy's (1992) hypotheticodeductive model (p.273 and p.276) (Figure 1-1). The thesis is composed of ten chapters. The first chapter is the current chapter, Introduction. It offers an overview of the study from the conceptual and methodological perspectives. It justifies the value of the research by pointing out the gaps in the existing literature and by presenting the potential contributions of the research.

Figure 1-1 Stages of research and organisation of the thesis



Following the Introduction chapter are the literature review chapters. The literature review includes three chapters, namely, Historical Account of Personality Research (Chapter 2), Personality in a Consumption Context (Chapter 3), and Consumer Behaviour (Chapter 4). The purpose of Chapter 2 is to provide a brief history of personality development in the psychology literature and to define personality for consumer research. Chapter 3 discusses the development of consumer personality research. It documents the shortcomings of past research on consumer personality. Chapter 4 examines the literature of consumer behaviour in relation to self-identity. The concept of self-identity is introduced; the roles of involvement and feeling are explored; the notions of brand personality and brand relationship are examined.

Conceptual Framework (Chapter 5) follows the literature review chapters. This chapter applies the self-identity and interpersonal relationship theories to propose specific hypotheses with regard to consumer personality, brand personality, and brand relationship. It is hypothesised that consumer and brand personality can be measured by the same personality inventory developed for humans. Although they can be measured by the same inventory, they remain two distinct constructs. Moreover, a positive relationship between consumer and brand personality on the corresponding dimensions (i.e. the Big Five) is proposed. Thus, consumer-brand congruence can be calculated on the basis of the distance (difference) between consumer and brand personality. A positive relationship between consumer-brand congruence and brand relationship is also anticipated. Finally, the roles of involvement and feeling are put forward to examine (i) consumer-brand congruence, (ii) brand relationship, (iii) the relationship between consumer and brand personality, and (iv) the relationship between consumer-brand congruence and brand relationship.

Chapter 6 is Methodology, which deals with the philosophical position of the research design. The philosophical position is critical realism. On the basis of critical realism, the research follows a quasi-experimental design from a field setting. The analysis methods employed include structural equation modelling, analysis of variance/covariance, and regression analysis.

Chapter 7 is Analysis of Data. The analysis reveals that consumer and brand personality can be measured by the same personality inventory. Although they can be measured by the same personality inventory, the two constructs remain distinct. Moreover, the results indicate that while the levels of involvement influences the levels of consumer-brand congruence and brand relationship quality, the influence from feeling is not evident. The influence of feeling appears only when blended with involvement (the interaction effect). However, no moderating effect is found to influence the relationship between consumer-brand congruence and brand relationship. This finding suggests that consumers use brands from various product categories to construct, maintain, and enhance their self-identities. Followed by this chapter is the discussion chapter (Chapter 8). Chapter 8 justifies the results by providing the theoretical underpinnings, which surround the self-identity and interpersonal relationship theories.

Chapter 9 is Conclusion, which summarises the research by offering the contributions and limitations of the research and by providing directions for future research. The contributions are at theoretical, methodological, and managerial levels.

At the theoretical level, the contributions include the repositioning of consumer and brand personality, re-affirmation of the brand relationship concept, and clarifications of the role of involvement and feeling in the relationship between self-identity and consumption. At the methodological level, the contributions focus on the measurement issues of self-identity and brand personality. At the managerial level, the contributions are concerned with the application of brand personality. Two main limitations are recognised. One is the lack of control of the experimental setting, and the other is the inability to associate involvement and feeling at an individual level. Finally, this chapter ends with directions for future research. Future research is suggested to extend the concept of brand personality to non brand users, to investigate the distinction between frequent-brand-users and favourite-brand users in relation to self-identity, to examine the interaction effects between product and brand involvement, and to re-inspect the scale of brand relationship quality.

The final chapter, Chapter 10, is Personal Reflections. This thesis is closed by the author's reflections on conducting this research. These reflections include what the author has learned during the research process and what she would do differently if starting again.

1.5 Summary

This chapter offers an overview of the research by discussing the conceptual and methodological foundations of the research, justification of the research, and the structure of the thesis. This study applies the self-identity theories and interpersonal relationship theories to examine whether consumers use consumption to construct their self-identities and whether the brand personality and brand relationship metaphors work in the minds of consumers. The conceptual framework will be built upon the existing research and upon self-identity and interpersonal relationship theories. Thus, the next three chapters will review the foundations of the conceptual framework, which are personality in psychology, personality in consumer research, and consumer behaviour in relation to self-identity.

Chapter 2. Historical Account of Personality Research

2.1 Introduction

The concept of personality is the centre of consumer personality and brand personality. Before discussing consumer personality and brand personality, the long history of the development of the personality concept is summarised. This chapter introduces four perspectives of personality research in psychology. These four perspectives are the psychodynamic perspective, behavioural (social-cognitive learning) perspective, humanistic perspective, and trait perspective.

Although different perspectives arose from different ontological assumptions of personality, they all came to a consensus in the contemporary era: personality cannot be properly studied without social contexts. Therefore, Adler, Erikson, Horney, and Sullivan brought various social concepts into the psychodynamic perspective; Bandura, Mischel, and Rotter brought social and cognitive aspects into the behavioural perspective. The humanistic perspective is firmly entrenched in the interrelationship between the self and the environment perceived by an individual in creation of the self-concept (i.e. personality). The trait perspective takes an interactionist view to link the biological foundations of traits and the environment that activates the traits.

The discussion of this chapter will start with the psychodynamic perspective, followed by the behavioural perspective, humanistic perspective, and trait perspective. From the discussion, one can find that different theorists, even within the same perspective, seem to have defined personality somewhat differently. After reviewing these four perspectives, a definition is offered on the basis of the interactionist view.

2.2 Psychodynamic perspective

The psychodynamic theories of personality stemmed largely from Freud's psychoanalytic theory. The criticisms of psychoanalysis have minimised the psychoanalytic applications in consumer research; however, it is acknowledged that Freud and his critics have contributed to motivation research in marketing (Kassarjian 1971, p.410). In addition to Freud (1856-1939), major advocates of psychodynamic analysis include Adler (1870-1937), Erikson (1902-1994), Horney (1885-1952), Jung (1875-1961), and Sullivan (1892-1949).

The psychodynamic theories mainly look at personality disorder and focus on personality change through therapies. The theories were therefore established upon the cases of patients. The theorists were interested in each individual case and analysis usually involves long hours of interview or observation. Although they had different interpretations of human behaviour and believed in different origins of human behaviour, they shared the foundation of Freud's psychoanalysis and methods. These psychoanalysts recognised the existence of different levels of personality (for example, in Freud's terms, the levels include id, ego, and superego), which contributed to later research in personality structure. They also recognised the importance of experience, especially childhood experience, in terms of personality development. The common methods in use include dream analysis, free association, and projection methods (Hall and Lindzey 1978, p.61; Pervin, Cervone, and John

2005, p.115). Even though the theories were based on patient case studies, the conceptualisation of personality has contributed to understanding the self in general.

Freud's psychoanalysis focuses on the unconscious of the individual (Freud 1915/1955b, p.147), and his structure of personality has three levels, namely, id, ego, and superego (Freud 1949, p.2-4). The id represents the original aspect of personality – impulses – and it operates according to the pleasure principle. According to Freud (1915/1955a), the id consists of unconscious sexual and aggressive instincts, which may operate jointly in different situations to influence human behaviour (p.203). The ego constrains the id to some extent and ensures that behaviour is socially acceptable (Freud 1949, p.2). It is "the organised aspect of id, formed to provide realistic direction for the person's impulses (Ryckman 2000, p.40)." The superego internalises social values within an individual and represents a set of learned ideals (Freud 1923/1962, p.95-96). All this prompted Freud to suggest that the unconscious (id), which was the root of an individual, was crucial to a full understanding of human behaviour (Hall and Lindzey 1978, p.32).

Freud emphasised the unconsciousness of the self, whereas Jung believed that the self refers to the entire personality – both the conscious and unconscious (Jung 1940, p.27). Unlike Freud who believed that sexual impulses and aggressive instincts direct human behaviour, Jung (1940) argued that each individual was directed by his tendency to move toward growth, perfection, and completion (p.111). The process of moving toward growth, perfection, and completion is termed "individuation (ibid, p.3)," also known as self-realisation.

Inspired by Jung's individuation, Adler brought the social concept into psychoanalysis (Adler 1931/1998b, p.17). He believed that an individual could only be understood by his participation with other members of society (Adler 1931/1998a, p.211). The drives for human behaviour were social feelings from the interaction with society (e.g. the feelings of inferiority) (Adler 1927, p.72) and human need for unity (e.g. social interests, love, and cooperation) (Adler 1931/1998a, p.209). Horney elaborated Alder's feelings of inferiority by emphasising the cultural environment as a whole. For example, penis envy (a term coined by Freud, who believed that penis envy derived from a felt loss of the penis and fantasies of its symbolic replacement) to Horney was a justifiable envy of qualities associated with masculinity in the cultural context – women's inferiority feelings were based upon unconscious acceptance of an ideology of male superiority (Horney 1939, p.103). She believed that the unique social and cultural experiences of children were crucial in determining their adult personalities (Horney 1937, p.19).

Erikson and Sullivan supported Horney's view on the importance of social and cultural experiences, and they brought the concept of self-identity in relation to these experiences. Erikson (1968a) indicated that an individual behaved in such a way to enhance his identity (p.199-200). To Erikson (1968b), identity was referred to as an individual's consciousness, which was derived from a variety of experiences in various situations, and which provided the individual with a behavioural direction (p.19-26). Thus, identity represented an individual's multiple selves, such as current self, ideal self, and ought self (ibid, p.49-52). On the other hand, Sullivan (1953) emphasised the role of interpersonal relationship in developing self-identity. He argued that personality was developed from the feelings experienced while in contact with others and from the perceptions reflected by others (Sullivan 1940, p.31). Hence, social acceptance was the motivation for behaviour (Pervin *et al.* 2005, p.145).

The major criticism of psychodynamic theories is their lack of falsifiability and verifiability. " … psychoanalysts use observations influenced by the theory to support the theory, while glossing over the problem that committed observers (analysts) may bias the response of their subjects and bias their own perceptions of the data… This problem is complicated further by the way in which psychoanalysts can account for almost any outcome, even opposite outcomes (Pervin *et al.* 2005, p.156)." For this reason, psychodynamic theories are no longer applied to marketing. However, the social concepts, especially those brought forward by Horney (i.e. culture), Erikson (i.e. identity), and Sullivan (i.e. interpersonal relationship), have been heavily applied across many disciplines.

2.3 Behavioural perspective

"Marketing is replete with examples of the influence of learning theory … However, very few personality studies have used behavioural orientation (Kassarjian 1971, p.410-411)." Kassarjian's behavioural orientation refers to the pure behaviourism, which basically de-emphasises the role of personality and emphasises the impact of environment. Naturally, personality studies tend not to apply the concepts of pure behaviourism. However, contemporary behaviourists incorporated the social and cognitive aspects to the learning theory (pure behaviourism) and reconciled the personality versus situation effect by taking the interactionist view (i.e. interaction between personality and situation) into account. Therefore, the social cognitive learning theory has been applied to consumer personality studies (such as susceptibility to interpersonal influence, discussed in Chapter 3.3.2, p.64-65).

Behavioural perspective originated from stimulus-response (S-R) theory (Hall and Lindzey 1978, p.563) or learning theory (Pervin et al. 2005, p.375). The classical debate on situation versus personality began with the emergence of the behavioural perspective. The founder of behaviourism is Watson (1878-1958). Other pioneer behaviourists include Pavlov (1849-1936) and Skinner (1904-1990). However, the contemporary behaviourists take a different view from these pioneers. They consider cognition crucial to behaviour and expand behaviourism from pure environmentalism to an environment-human interaction perspective. Three of the most influential figures in this area are Bandura (1925-), Mischel (1930-), and Rotter (1916-).

The development of behaviourism started from Watson's proposal that, in order to study psychology scientifically, the focus should be placed on the observable behaviour rather than on the internal (unobservable) process put forward by the psychoanalysts (Watson 1913, p.158-159). To elaborate Watson's view, Skinner suggested that "if we are to use the methods of science in the field of human affairs, we must assume that behaviour is lawful and determined (Skinner 1953, p.6-7)." This assumption implied that behaviour could be controlled via manipulation of the environment and that behaviour was learned. Thus, human beings were seen as without free will to act as he wished (Skinner 1987, p.785). Therefore, personality was merely a branch of learning (Pervin *et al.* 2005, p.345-346).

Following Watson's assumption that behaviour could be controlled, the early behaviourists focused on experiments which enabled the researchers to manipulate the environment and observe the behaviour in a laboratory setting. Some important concepts, such as classical and operant conditioning, were developed in such laboratory settings. Classical conditioning is the reflex-like behaviour (e.g. salivation in Pavlov's research) that can occur in response to an unrelated stimulus (e.g. bell) after the subject (e.g. dog) learns that the occurrence of the unrelated stimulus is paired with a related stimulus (e.g. food) (Watson and Rayner 1920). Skinner (1953) recognised the importance of classical conditioning in human behaviour, but found that most of the behaviour was learned via the experiences that followed the action. Operant conditioning explains how an individual learns to behave through experiences (also called "reinforcement (Skinner 1963, p.505)"). Over time, the association between the cue (the situation) and the response (the behaviour) is presented as a habit (Miller and Dollard 1945, p.214-215). Various habits compose a repertoire of behavioural patterns, which Skinner (1974) referred to as personality (p.149).

There are two major criticisms of pure behaviourism. First, human beings do not live in a social vacuum as manipulated in the experimental settings. Moreover, the pure behaviourists overlooked one of the key qualities that distinguish human beings from other species: cognition, that is, the ability to reason. As a result, social and cognitive aspects started to appear in learning theories in the contemporary research.

Rotter (1964) argued that behaviour was learned through the interaction with other people in meaningful environments, rather than in the experimental settings (p.85). An individual's cognitions could therefore be used to anticipate his behaviour

(Feist and Feist 2006, p.500). On this basis, Bandura (1986) postulated a triadic reciprocal determinism, in which cognition, behaviour, and environment operated interactively as determinants of one another (p.23-24). In other words, individuals did not simply react to environmental events; cognition determined which environmental event was being perceived, how it was being interpreted and organised, and how they acted in this environment (Bandura 1978, p.345). In a way, they actively created their own environments and acted to change them (Ryckman 2000, p.598).

Mischel expanded Bandura's triadic reciprocal determinism framework to a cognitive-affective processing system (Mischel 1973; Mischel and Shoda 1995). This cognitive-affective processing system indicated reconciliation between the behavioural (learning) approach and the personality approach. The cognitive-affective personality theory suggested that behaviour was generated from a combination of relatively stable personal dispositions and cognitive-affective processes interacting with a particular situation. The rationale was based on the fact that different aspects of situational features activated a particular subset of the overall personality system. Consequently, individuals behave differently from one situation to another.

The pure behaviourist view indicates that personality, as a repertoire of behavioural patterns, is seen as both changing and stable. It is changing because the individual is continuously exposed to new experiences (both direct and indirect); it is stable because previous experiences affect new learning (Rotter and Hochreich 1975, p.94). On the other hand, social learning theory stresses an individual's capacities to use conscious reasoning processes to guide his behaviour. Thus, the individual displays consistency as well as meaningful variability in action (Pervin et al. 2005, p.417). By combining both approaches, Mischel's interactionist view suggests that different subsets of personality dispositions can be activated by different situational features. Personality may provide an important clue to why this may be so (Feist and Feist 2006, p.461).

2.4 Humanistic perspective

Following the two major perspectives, psychoanalysis and behaviourism, humanistic views became the so-called third force movement in personality theories (Ryckman 2000, p.427). Humanistic psychology, a term coined by Maslow (ibid), is also known as existentialism or phenomenology (Hall and Lindzey 1978, p.243-244, 312). Major advocates in shaping humanistic perspective of personality theories include Kelly (1905-1967), May (1909-1994), Maslow (1908-1970), and Rogers (1902-1987). The humanistic perspective stresses an individual's unique freedom of will to direct his behaviour. The central focus of humanistic theories is the development of self-concept, which has been largely applied to consumer research (see the discussion in Chapter 4.2.2).

Humanistic psychology has been influenced by the nineteenth century philosophers, Søren Kierkegaard (1813-1855) (Ryckman 2000, p.490) and Martin Heidegger (1889-1976) (Hall and Lindzey 1978, p.312). Heidegger (1962) believed that humans existed by "being-in-the-world" and the world had its existence because there was a *being* to disclose it (p.88-90). Humanistic psychology is concerned with the study of the nature of *being*, which refers to a process in which an individual is the source of change (Kierkegaard 1846/1941, p.116-117). Thus, in *being*, the individual becomes aware of his or her own potentialities and assumes the responsibilities for realising these potentialities (May 1961, p.13-20). The awareness refers to the perception of the individual's experience (Rogers 1959, p.198) and the responsibilities indicate the individual's freedom to will his own conduct (Ryckman 2000, p.490-492).

Therefore, an individual's perceptions of the world determine his behaviour. Consistently, Rogers's person-centred theory starts and ends with the subjective perceptions of the individual (Rogers 1951, p.484-486). These perceptions make up an individual's self-concept and ideal self (Pervin *et al.* 2005, p.167). To Rogers, the self-concept is the meaning that an individual attaches to his perceptions of the relations between external objects and experiences, while the ideal self is the self-concept that an individual wishes to possess. Rogers (1959) suggested that all human beings possess a tendency to move toward fulfilment of potential (p.196-197). This tendency is called "actualising tendency (ibid, p.196)." The actualising tendency implies that behaviour is guided by minimising the gap between the self-concept and the ideal self. That is to say, by moving towards the ideal self, individuals move forward to self-actualising. This view is consistent with Maslow's (1968) hierarchy of needs.

Both Maslow and Rogers recognised that, even though individuals strive to actualise themselves, they have the capacity for wrongdoing. However, they blamed human ill behaviour on the environment because if the individual cannot control the environment, he will try to adapt to it (Maslow 1970, p.101-102; Rogers 1967, p.177-178). On the contrary, May (1982) indicated that human beings can be good and evil while also being capable of creating environments that encourage both types of behaviour (p.11-12). Individuals are not the victim of environments because an alternative choice is always available (Kelly 1955, p.21-22).

Like Rogers, Kelly suggested that perceptions are important interpretations of the world and important guidance in behaviour. According to Kelly's personal construct theory, individuals construct their understanding of the world through their interpretations of the events and behave in accordance with their anticipation of the future. While Rogers and Maslow viewed motivation activated by actualising tendency as the behavioural guidance of an individual, Kelly argued that each individual revolves around the attempts to maximise understanding of the world through continuous elaboration of his construct system (Ryckman 2000, p.404). Therefore, the individual continually validates his personal constructs against his experience with the real world (Feist and Feist 2006, p.552).

The humanistic perspective focuses on the understanding of an individual's behaviour via the perception (e.g. Rogers's person-centred theory) or the construction (e.g. Kelly's personal construct theory) of the relationship between the individual and the world. Thus, to humanistic psychologists, an individual cannot be properly understood if he or she is detached from the real world by manipulative experiments or controls (Hall and Lindzey 1978, p.317-318). The integrity of the individual, as well as the natural environment in which the individual exists, must be maintained while being studied. Moreover, although humanistic psychologists acknowledge the existence of both consciousness and unconsciousness, they place more weight on consciousness. They argue that an individual is not able to construct a perception without being aware of it. Therefore, self-report constitutes data. Observing human beings enjoy the benefit of free will in their behaviour and maintaining the natural settings in which to study them, the humanistic psychologists clearly reject behaviourism.

2.5 Trait perspective

The trait concept was first proposed by Allport (1897-1967), who advocated the importance of studying individual uniqueness, intra-individual personality. On the other hand, other trait theorists, including Cattell (1905-1998), Eysenck (1916-1997), Thurstone (1887-1955), among others, emphasised the study of individual differences, between-individual constructs.

These trait theorists see traits differently (Wiggins 1997, p.98) on the basis of two shared assumptions (Pervin *et al.* 2005, p.223-244). The first, and probably the most important, assumption is that there is a direct connection between overt behaviour and underlying traits. The second assumption is that personality and behaviour are hierarchical; the layers of the hierarchy enable the researchers to categorise personality traits and to study them as a group in a quantitative manner. Based on the two assumptions, personality traits are defined as the "consistent patterns in the way individuals behave, feel, and think (ibid, p.223)."

This definition has encouraged a lexical approach to study various traits. The lexical approach is to gather the possible terms of personality attributes, dispositions, or traits from natural language (John, Angleitner, and Ostendorf 1988, p.174). Therefore, personality traits can be statistically measured by various behavioural statements. Because of the easiness of applying the measurements, the trait perspective was the most important source for the consumer personality research (Chapter 3).

2.5.1 The ontology of traits

The conceptualisation of traits differs in terms of the ontological status of traits. There are three ontological positions of traits (Zuroff 1986, p.996). The first position is to view traits as existing in genetics. This position refers to traits as innate, existing naturally in each individual, with a connection to overt behaviour. Traits denote the mental structure (Allport 1937, p.289) with the capacity to initiate and guide meaningfully-consistent behaviour (Allport 1961, p.347 and p.373). Though they cannot be observed directly, they can be inferred from behaviour (Ryckman 2000, p.277). However, if the traits are merely inferred from behaviour, trait explanations could be circular; that is, a trait concept is used to explain the very behaviour that served as the basis for inferring the existence of the trait in the first place (Pervin et al. 2005, p.230). Traits need to possess heritability, not learnt characteristics (Eysenck 1970, p.425-426). Eysenck (1969) further suggested that a trait must fit an established genetic model (p.50). As a result, trait theorists, standing for this position, argue for the biological foundations of traits as the guidance for behaviour.

The second position is the dispositional view, which indicates the interaction between traits and environment. Researchers who favour this position acknowledge the existence of trait (i.e. the biological foundations of traits, as discussed in the previous paragraph), but they focus on the interaction between traits and environment.

They are more interested in knowing the 'if … then …' question – If trait X is placed in a certain situation, will trait X produce a certain response (Hirschberg 1978, p.49)? Therefore, traits do not necessarily yield consistent behaviour across environments (Allport 1937, p.248-256). Situations arouse various traits to be active; thus, consistent behavioural patterns are meaningful only when the situation is taken into account. Moreover, though personality traits are genetically based, the traits are subject to modification by experiences (Cattell 1965, p.36-37), such as emotions and social roles (Pervin *et al.* 2005, p.246).

The first two positions see traits as genotypic, meaning that they are genetic. However, the third position, the summary view of traits, indicates that traits are not really traits, but, at best, attributes, which, unlike the other two positions, do not imply stability and genetic origin (Saucier and Goldberg 1996, p.25). This position is straightforward in that attributes cannot be seen as traits without empirical evidence; that is, the evidence that proves the existence of biological foundation of traits. They are not against the possibility of biological assumptions underlying traits, but they focus on the observable attributes. These attributes are purely descriptive of overt behaviour. To these theorists, the personality attributes are phenotypic (Goldberg 1993), which may be accounted for by genotypic constructs related to genetic factors, to environment, or a combination of both (Saucier and Goldberg 1996, p.25).

Theoretically, these three concepts of traits have different purposes (Zuroff 1986, p.999). The causal view of traits serves an explanatory purpose. It seeks to explain the occurrence of behaviour by linking to genetics. The dispositional view serves the purpose of behaviour prediction. It attempts to predict behavioural tendency by matching the situations and traits. The summary view serves the purpose of description. It simply describes and categorises human behaviour.

2.5.2 Research methods of the trait theories

Although they depart from the ontological positions of traits, the trait theorists adopt three common approaches to personality: (i) the use of self-report, (ii) the lexical method of sampling trait terms, and (iii) factor analysis. First of all, they acknowledge the usefulness of consciousness and accept self-reports at face value (Feist and Feist 2006, p.385). Accepting that an individual is able to describe himself does not necessarily mean rejecting unconsciousness. Rather, the focus on the unconsciousness may be more relevant in clinical studies – studies of abnormal individuals (Allport 1937, p.349-350). According to Allport (1967), probing the unconsciousness of healthy adults may be too deep; he said:

> "… depth psychology, for all its merits, may plunge too deep, and that psychologists would do well to give full recognition to manifest motives before probing the unconscious (p.14)."

He suggested that the normal individual behaved in terms of known and reasonable motives (Hall and Lindzey 1978, p.459). It is the individual's own perception of external influences that establishes motivations, which then determine his behaviour (Ryckman 2000, p.275). The conscious determinants of behaviour, in normal individuals at least, are very important to studying the individual's personality (Hall and Lindzey 1978, p.440).

Secondly, to develop the measurements for personality, the trait theorists took a lexical approach to gather the possible terms of personality attributes, dispositions, or traits from natural language (John *et al.* 1988, p.174). Sampling the personality terms from natural language can benefit from its finite but extensive terms that refer to individual differences (ibid, p.174). Moreover, natural language possesses two properties: cross-language and within-language (Saucier and Goldberg 1996, p.26). The cross-language property indicates that "the more important is an individual difference in human transactions, the more languages will have a term for it (Goldberg 1981a, p.142)." The within-language property suggests that the more important is such an attribute, the more synonyms and subtly distinctive facets of the attribute will be found within any one language (Zipf 1949, p.208). Combining these two propositions, researchers (John *et al.* 1988, p.174; Saucier and Goldberg 1996, p.26) concluded that the degree of representation of an attribute in language is associated with the general importance and social relevance of the attribute embedded in individuals' daily lives.

Finally, the trait theorists have heavily relied on statistical analysis, factor analysis in particular. They believed that statistical analysis was more scientific and objective than psychoanalysis. Cattell, Eysenck, and Thurstone were the early major proponents of statistical factor analysis in personality studies. Their studies focused on the common traits and developed the influential personality factor models; the models were factor analysed on the basis of the lexical sampling of the trait terms. These studies will be summarised in the next section.

2.5.3 Empirical research

Early empirical research of personality traits by using factor analysis started from Cattell, Eysenck, and Thurstone. Although Thurstone (1934) was the first personality researcher to factor analyse a broad number of traits, his selection of traits was described as too "idiosyncratic (Goldberg 1993, p.27)." The most well-known classic trait models are Eysenck's three-factor model and Cattell's 16 PF (Personality Factors). However, the structure of the contemporary model follows a five-factor model, termed the Big Five. The history of personality taxonomies with lexical approach is displayed in Appendix 2.

Eysenck attempted to link his factors to biological foundations. Originally, there were two factors in his biological personality traits; this is, extraversion and neuroticism (Eysenck 1947). Later, he added the third factor, psychoticism, to his model (Eysenck 1969). These factors compose the P-E-N three-factor model. Extraversion denotes the level of extraversion; neuroticism represents the level of emotional stability; psychoticism indicates the level of anti-socialability. The three factors are bipolar and normally distributed along each dimension.

On the other hand, Cattell did not care much about the biological foundations of traits and aimed at summarising the important traits. He (1943) started with Allport and Odbert's (1936) lexical list (which contains 17,953 trait terms) and grouped the traits terms into sixty variables (p.500-503). He made several attempts to decide the best number of variables to extract (Cattell 1945a, b, 1947). Finally, he determined his personality model, containing sixteen personality traits, which were termed the 16 PF (Cattell 1965). His work stimulated a number of researchers, most of whom found a universal five factors to categorise the personality traits, a model later termed the Big Five (Goldberg 1981a), which still plays an important role in personality psychology.

The first discovery of the Big Five was by Fiske in 1949. He analysed a set of twenty-two variables developed by Cattell and found five factors that replicated across samples of self-ratings, observer ratings, and peer ratings. However, a clear Big Five model did not appear until 1961, when Tupes and Christal (1961) re-analysed Cattell's taxonomy. Thereafter, various attempts have consistently identified the Big Five (Borgatta 1964; Norman 1963; Smith 1967). However, it is the research done by Goldberg (1981a) and McCrae and Costa (1985b) among others that led to the contemporary Big Five. These five factors are extraversion, agreeableness, conscientiousness, neuroticism, and openness to new experiences. Though the labels of the five factors are slightly different from researcher to researcher, the content is more or less the same (Digman 1990, p.422-424). The meanings of extraversion and neuroticism followed what Eysenck defined them originally when he first devised his two-factor model in 1947. Extraversion refers to the level resided in an individual to seek for stimulation in life, while neuroticism indicates the level of emotional unstability within the individual. The other three factors were developed later. According to McCrae and Costa (1985b), agreeableness refers to the tendency to be truistic; conscientiousness represents to the tendency to show self-discipline; openness to new experiences describes the tendency to be open-minded for new ideas (p.15). After this, the concept of the five-factor model was quickly adopted by other researchers (see John 1990; Wiggins and Pincus 1992 for a brief review).

The lexical approach to personality provides the understanding of inter-individual personality structure from the perspective of each individual (self-reports). The approach may not be able to account for the heritability of traits but it is embedded in the social evolution of human beings over thousands of years. It provides a scientific way to explore the personality attributes that are used in daily life. Moreover, contemporary studies (Paunonen 2003) found a possible association between individual differences and behaviour. These merits of the lexical studies on personality should not be neglected. What the researchers need to be cautious about is: (i) not to imply intra-individual structure by applying inter-individual studies (Cervone 2005, p.426), (ii) not to confuse personality traits with attributes (Saucier and Goldberg 1996, p.37), and (iii) not to be ignorant of the limitations of factor analysis (Block 1995, p.189).

2.6 Definition of Personality

As Pervin (1990) described, "There appears to be as many definitions of personality as there are authors (p.3)." The four perspectives of personality have developed their own definitions. Moreover, even within the same perspective, diverse definitions still appear.

Hall and Lindzey (1978) suggested that there is no single definition which can be generally applied (p.9). To summarise the discussions of the four perspectives, the definitions of personality differ in two domains: (i) personality stability versus evolving personality (Carlson 1975, p.403-406) and (ii) internal mechanism versus external adaptability (Bronfenbrenner 1953, p.161-164).

The first disagreement in defining personality concerns the stability of an individual's personality. Peck and Whitlow (1975) proposed that the core of personality is stable over time (p.10). This is true from a biological viewpoint where personality is seen as genetic and inherited, and thus tends to be steady in nature (Eysenck 1969; McCrae and Costa 1996; von Bertalanffy 1951, p.37). Bronfebrenner (1953) suggested that personality was a system of enduring dispositions, which influenced perceived aspects of the individual's environment (p.158). The perception of the individual's environment relates to the individual's behaviour, which indicates that personality is, in fact, an "enduring pattern of recurrent interpersonal situations (Sullivan 1953, p.111)." This behavioural consistency has been strengthened by Loevinger and Knoll (1983), who indicated that "if there is no consistency in behaviour, as some behaviourists and social learning theorists were insisting a few years ago, then personality research should disappear and be entirely replaced by social psychology (p.196-197)."

However, consistency in behaviour does not guarantee a consistency in personality (Carlson 1975, p.395). Moreover, research into personality development suggests that personality is a continuously changing phenomenon (Hall and Lindzey 1978, p.211). Murray (1938) elaborated the idea of 'continuous change' by stating that "personality is a compromise between the individual's own impulses and the demands and interests of other people (p.231)." The demands and interests of other people are seen as a socialisation process, and the conflict between the individual and socialisation is often resolved by altering the person. Allport agreed with Murray that personality was dynamic. In the most frequently cited definition of personality, Allport (1937) defined personality as "*the dynamic organization within the individual* *of those psychophysical systems that determine his unique adjustments to his environment* (p.48)." To Allport, the dynamic organisation is regarded as "constantly evolving and changing (ibid, p.48)."

The level of stability in personality leads to the second disagreement in personality definitions – internal mechanism versus external adaptability. Some researchers (such as behaviourists) depend on how consistently individuals behave across different situations to determine whether personality originates from an internal mechanism or adapts to external environment. For example, Funder (1997) focused on behavioural and psychological patterns without considering the possible influence from environmental cues. He defined personality as "*an individual's characteristic pattern of thought, emotion, and behaviour, together with the psychological mechanisms – hidden or not – behind those patterns* (p.1-2)." In line with Funder, Pervin and colleagues (Pervin *et al.* 2005), arguing for consistent behaviour across different situations, suggested that "*personality refers to those characteristics of the person that account for consistent patterns of feeling, thinking, and behaviour* (p.6)."

However, some researchers argue against this, saying that there is no clear cut-off between personality and the environment. Allport, for example, did not maintain that individuals would behave consistently across different situations even though he accepted the important role played by genetic factors in his personality definition. In line with Allport, many researchers argue for an interactionist perspective. For example, Triandis and Suh (2002) defined personality as "*a configuration of cognitions, emotions, and habits activated when situations stimulate their expression* (p.136)." They explained that personality "determines an individual's unique adjustment to the world (p.136)" but such adjustment is stimulated by different situations. Thus, behaviour could not be understood in isolation (Murray 1938, p.39-40). Only by putting personality in a social context is the study of an individual able to avoid the danger of dehumanisation (Baughman and Welsh 1962, p.16-17).

Applying Darwin's evolution theory, some researchers found support to settle the disagreement between personality stability and behaviour consistency (Buss 1991; Kenrick, Li, and Butner 2003; Moore 2006). To survive, an individual needs to maximise his certain personality factors in different contexts. Personality is not single-faceted; thus, different facets would come to dominate an individual in different situations. For example, as a manager, he needs to demonstrate his leadership. There are different types of leadership, and each manager would choose the most suitable approach. Through life experience, the manager more or less knows what personalities he can best utilise in performing his leadership. Life experience is an individual's experienced outcome of the interaction between personality and a given situation. Together with his life experience, the individual may maintain, refine, or change his future behaviour in the same contextual setting (Murray 1959, p.45; Sanford 1963, p.567).

Taking from interactionist (Allport 1937; Murrary 1938); Triandis and Suh 2002) and evolution (Buss 1991) viewpoints, the author defines personality as

> an individual's perception of the configuration of his cognition, emotion, and motivation, which activates behaviour and reflects how he adjusts to the environment by incorporating his life experience.

Self-report personality is the individual's perception of himself. A perceived personality, by no means, is a 'true' personality, which may be obtained by professional psychologists or psychiatrists. Thus, this definition of personality, incorporated the humanistic perspective, reflects the individual's self-identity.

2.7 Summary

Few consumer researchers examined the diverse debates on personality when borrowing the concept from psychology. Kassarjian (1971) may be an exception. However, he did not update the more recent development of personality psychology in his following series of reviews (Kassarjian and Sheffet 1981, 1991). Moreover, no consumer researcher has yet properly defined personality when borrowing the concept from psychology. This chapter discussed the historical account of personality research and offered a definition of personality in the hope that the proposed research (and future research into consumer personality) will have a solid foundation. In the following chapter, how personality has been used in consumer research will be examined.

Chapter 3. Personality in a Consumption Context

3.1 Introduction

This chapter presents three phases of consumer personality research, namely, the exploratory stage, conceptualisation stage, and integration stage. The first phase originated in Evans's (1959) investigation into the personality of Ford and Chevrolet owners. Research in this phase was mainly exploratory in nature and without rigorous theoretical foundations.

After Kassarjian's (1971) review pointed out the inconsistent results and the very limited value of personality in predicting consumer behaviour, a different type of research (the second phase) emerged to correct the possible mistakes observed by Kassarjian and to fragment personality into distinct traits. This type of consumer personality research focused on narrow personality characteristics (e.g. self-monitoring, susceptibility to normative influence, etc.) and formulated careful hypotheses between personality and consumer behaviour. Unlike the previous research, this phase of research did not view personality as a whole.

However, over-fragmented personality was criticised for its lack of generalizability (Crosby and Grossbart 1984). The specific traits developed in the context of consumption reduced individual cases to mere snap-shots. Therefore, the researchers went back to examine personality-as-a-whole. However, in contrast to the aims of the first phase, this phase brought the concept of self-identity as a basis for study of the association between personality and brand choice (Baumgartner 2002). Although the concept is logical, the empirical investigations are somewhat limited.

These three phases were overlapping and did not have a clear cut-off in terms of the time of research. However, the sequence of this chapter accords with the first proper emergence of research work. Thus, the three phases of research (i.e. exploratory, conceptualisation, and integration stages) will be discussed in a chronological order.

3.2 Research phase 1 – Exploratory stage

Evans's (1959) classic investigation into the personalities of Ford and Chevrolet car users initiated consumer personality research. His investigations (1959; 1968) and negative findings of the relationship between personality and choice of car brand attracted much adverse attention from the proponents of personality in marketing and, therefore, provoked various studies to assess this relationship through different means. However, consumer personality research was at the time in its infancy, and, in general, studies were exploratory, conceptualisation was unclear, and methods were immature. Nevertheless, although the studies of this phase contained a variety of shortcomings, the criticisms and the insight from various debates became the foundation of the following phases.

3.2.1 Research content

Because of the exploratory nature of the studies, the consumer researchers were inclined to examine personality via a broad personality inventory and to relate personality responses to various consumer behaviours (Jacoby 1971, p.244), including brand choice (Cohen 1967; Evans 1959, 1968; Fry 1971; Westfall 1962), brand attitude (Myers 1967), innovative buying behaviour (Robertson and Myers 1969), television viewing behaviour (Villani 1975, p.433), finance product choice (Claycamp 1965), and usage and non-usage of such products as cigarettes (Koponen 1960), cologne (Tucker and Painter 1961), and so on (Cohen 1967; Schaninger, Lessig, and Panton 1980; Sparks and Tucker 1971; Tucker and Painter 1961).

Among these studies, Evans's (1959) classic investigation into Ford and Chevrolet car users was the first study of this area; therefore, it was the most discussed and examined study. The purpose of this study was straightforward; it was to empirically explore the long-believed, yet not quantitatively proved, relationship between personality and consumer behaviour. Since personality has long been held responsible for brand choice, Evans assumed that it could discriminate between the car users of Ford and Chevrolet, two companies which together comprised about half of the automobile market in the U.S., competed against each other in the same segment in terms of price and product features, and were commonly portrayed as being different in terms of the personalities of the users to whom they appealed (ibid, p.340 and 343).

The personality inventory Evans chose to apply to his investigation was the Edwards Personal Preference Schedule (EPPS) (Edwards 1959). The EPPS, developed from Murray's (1938) system of personality needs (p.142-242), identifies fifteen dimensions of needs (Table 3-1). Eleven of the personality needs (achievement, deference, exhibition, autonomy, affiliation, intraception, dominance, abasement, change, aggression, and heterosexuality) were adapted by Evans (1959, p.345). These personalities were correlated, compared, and discriminantly analysed between Ford and Chevrolet owners. Even though the results did demonstrate that these owners projected their valued personality needs to the brand image of the brands that they owned (ibid, p.362), no evidence appeared to discriminate Ford owners from Chevrolet owners on the basis of personality (ibid, p.352 and p.362).

Table 3-1 Illustration of personality needs in Edwards Personal Preference Schedule (EPPS)

Dimension of Personality Needs	Definition
1. Achievement*	A need to accomplish something difficult and to master objects or ideas
2. Deference*	A need to conform to customs or to imitate a superior other (exemplar)
3. Order	A need to achieve tidiness and precision
4. Exhibition*	A need to be seen and heard
5. Autonomy*	A need to be independent and to defy conventions
6. Affiliation*	A need to form friendships and attachments
7. Intraception*	A need to express emotions and to focus on feelings
8. Succorance	A need to receive support and protection
9. Dominance*	A need to control one's environment or to influence others
10. Abasement*	A need to submit passively to external force and to accept blame
11. Nurturance	A need to give support, protection, and comfort to others
12. Change*	A need to seek novelty, experiment, and adventure
13. Endurance	A need to be persistent
14. Sex*	A need to form and further an erotic relationship
15. Aggression*	A need to overcome opposition forcefully

The definitions were extracted from Murray's (1938) personality needs (p.152-217). According to Edwards (1959, p.3), nine statements are used for each dimension and paired for a forced choice. Fifteen pairs of items are repeated twice for the optional consistency check. This results in 225 pairs of statements in total.
* Adapted by Evans (1959, p.345), who applied 110 pairs of statements.

These negative findings surprised the advocates of personality researchers (i.e. the traditional motivational researchers), such as Martineau (1957), who claimed that "personality was the only factor that could distinguish users from non-users (p.67)."

Thus, the sample, research design, measurement, analysis methods, and results of Evans's study were severely criticised (Kuehn 1963; Steiner 1961; Winick 1961). Some of the criticisms seemed to be somewhat contrived. For example, one of the grounds on which Winick (1961) overruled Evans's study was Evans's adoption of a homogeneous sample from a village (p.66) even though he acknowledged that a homogeneous sample was able to highlight the effect of personality (Evans 1961, p.72; Winick 1961, p.66). Moreover, Kuehn (1963) claimed personality could distinguish Ford owners from Chevrolet owners by demonstrating a regression model between Ford owners and the two most influential personality needs from Evans's study, i.e. dominance and affiliation. Rather than looking at dominance and affiliation separately or together, he devised a dominance-minus-affiliation scale as the predictor. Rather than discriminating Ford owners from Chevrolet owners, he investigated Ford owners and neglected Chevrolet owners. His manipulative personality 'invention' and his overlooking of the issue of user discrimination were not methodologically sound or conceptually acceptable (Evans and Roberts 1963, p.244-246).

To the great disappointment of many motivational researchers, Evans's (1959) study was successfully replicated by himself (1968) and by Westfall (1962). The research design of his 1968 replication remained the same (Evans 1968, p.447-448), but he included more analysis methods in response to the criticisms (Kuehn 1963; Marcus 1965). On the other hand, Westfall (1962) repeated the investigation of Ford and Chevrolet owners, but expanded the sample to metropolitan areas (p.36) and used a different personality inventory; that is, Thurstone's Temperament Schedule (p.35). Both studies demonstrated that Evans's (1959) results were sustainable – personality was a weak predictor of brand choice. Following the studies of these car users, this type of investigation has been extended to other consumption contexts by using various personality inventories. Still, the results were rather discouraging: more and more researchers (Myers 1967; Robertson and Myers 1969; Villani 1975) came to the conclusion that the relationship between personality and other consumer behaviour (i.e. opinion leadership and television viewing behaviour) was not evident.

Although discouraging results appeared, other studies did effectively demonstrate a relationship between personality and consumer behaviour. Instead of exploring the relationship between personality and brand choice, attention shifted to the relationship between personality and product usage. While Westfall (1962) was unsuccessful in his attempt to relate personality to car brand choice, he discovered that personality could predict the types of cars an individual drove. For example, convertible car drivers were significantly more active, impulsive, and sociable than standard-compact car drivers (Westfall 1962, p.37). Most of these studies examined the different scores between product users and non-users. If there was a significant difference in certain personality traits between product users and non-users, the authors would claim a relationship had appeared. By this method, Koponen (1960) suggested that, compared with non-smokers, smokers were higher in their expressed personality needs for sex, aggression, achievement, and dominance, but lower in compliance, order, self depreciation, and association. Through this way of exploring personality traits, a relationship was found between personality and finance product usage (Claycamp 1965), information-seeking behaviour (Kernan 1968), attitudes towards product attributes (Alpert 1972), and usage of various domestic products, such as headache remedies, cigarettes, alcohol, and cologne, among others (Cohen 1967; Schaninger *et al.* 1980; Sparks and Tucker 1971; Tucker and Painter 1961).

3.2.2 Criticisms

Prior to the 1970s, the criticisms of consumer personality research concentrated on the first consumer personality study by Evans (1959). Although some of the criticisms were problematic (see p.48), others were insightful. However, until Kassarjian's (1971) classic consumer personality review, such insight was silenced by Evans's self-defence (Evans 1961, 1968; Evans and Roberts 1963) and ignored by the seemingly 'positive' findings of Evans's opponents. The main criticisms focused on three facets, namely, the use of personality instruments, the interpretation of analysis, and the development of conceptualisation (Engel, Kollat, and Blackwell 1969; Kassarjian 1971; Wells 1966; Wells and Beard 1973).

<u>Personality instruments</u>

Wells and Beard (1973) documented the detailed personality instruments of most consumer personality investigations of this phase of research (p.180-189), and the popular personality instruments included EPPS (Alpert 1972; Brody and Cunningham 1968; Claycamp 1965; Evans 1959, 1968; Koponen 1960), Thurstone's Temperament Schedule (Kamen 1964; Westfall 1962), California Personality Inventory (Boone 1970; Bruce and Witt 1970; Fry 1971; Robertson and Myers 1969; Vitz and Johnston 1965), Gordon Personal Profile (Greeno, Sommers, and Kernan 1973; Kernan 1968; Sparks and Tucker 1971; Tucker and Painter 1961), and Gordon Personality Inventory (Kernan 1968; Sparks and Tucker 1971). These instruments were borrowed from psychology, and, as they were originally developed for clinical purposes, they may not be suitable for the consumption contexts.

For example, EPPS, one of the most popular personality inventories in consumer research, was originally designed to examine intra-individual difference, rather than inter-individual difference (Horton 1974, p.336; Wells 1966, p.188). However, the interest of consumer personality research was in its comparison of inter-individual difference. Furthermore, these clinically developed instruments were used to investigate mentally unhealthy patients rather than normal individuals, such as the average consumer. Thus, the danger of applying these borrowed instruments was the assumption that normal consumers behave like unhealthy patients. This assumption may have jeopardised consumer personality research (Crosby and Grossbart 1984, p.447). Even Evans himself (1959) acknowledged this potential risk and questioned the testability of personality (p.352).

Nevertheless, the potential risk did not just arise from the borrowed personality instruments themselves. These borrowed personality instruments were modified by consumer researchers for their convenient application. Kassarjian (1971), for example, observed that these instruments were often shortened drastically, and he strongly disapproved of such modification (p.415). Even though Villani and Wind (1975) supported Kassarjian's view that it is best to preserve the original measurement scale as much as possible, they reported that the shortened personality measurements remained reliable and the harm caused by their use was minimal (p.228). However, a closer inspection revealed that the reliability measure they used was test-retest reliability. They did not discuss internal consistency (such as Cronbach's alpha), which has been the main reliability index (Churchill 1979, p.69) and more important than test-retest reliability (Peter 1979, p.8). Nor did they mention validity issues of the imposed modifications (Engel *et al.* 1969, p.66). After comparing the explained variance among personality scales with different levels of shortening, validity is seriously hindered when the personality scale is drastically reduced (Brooker 1978, p.145).

The source of the personality instruments used by consumer researchers can be doubtful in that these instruments were developed for psychological or clinical usage. Moreover, some of the investigators did not even report what personality inventories they used (for example, Carman 1970; Jacobson and Kossoff 1963; Villani 1975), which made validation of the results difficult. More often than not, even when the researchers did report the personality inventories they used, they did not bother to indicate or examine the reliability and validity of the instruments. This lack of caution in dealing with personality measurements may have distorted the relationship between personality and consumer behaviour that these researchers claimed they had or had not found.

Analysis

The analytic problems of this phase included the choice of the analysis methods and the interpretation of the results. Because of the presence of these problems, it is very difficult to judge whether the conclusions – either existence or absence of a relationship between personality and consumer behaviour – were drawn through absolutely legitimate means.

The choice of analysis methods presented a potential problem in that the researchers did not choose more rigorous methods or provide enough information in their result presentation. For example, canonical analysis is not a scrupulous method

(Hair *et al.* 1998, p.444). Even though this fact has been recognised by consumer personality researchers (e.g. Alpert 1972, p.92), it was still used as the main method (Alpert 1972; Kernan 1968; Sparks and Tucker 1971). The main problem of canonical analysis lies in the interpretation because it can differ from analyst to analyst: there is no definite cut-off point and the selection of variables is entirely dependent on the analysts (Alpert 1972, p.92).

Moreover, the most popular methods applied during this phase were mean comparison methods, including *t*-tests, χ^2 tests, or ANOVA (Boone 1970; Cohen 1967; Donnelly 1970; Gruen 1960; Jacobson and Kossoff 1963; Kamen 1964; Koponen 1960; Westfall 1962), which produced limited information. In contrast to regression analysis or correlation analysis, mean comparison methods show the differences of the personality scores assigned by the respondents but can hardly display meaningful patterns. Even so, many researchers enjoyed using them. When they found a difference between the mean scores of personality in relation to the consumer behaviour under investigation, they tended to claim the existence of a relationship between personality and consumer behaviour. However, the 'relationship' shown by the mean comparison methods can be very ambiguous.

Further, some researchers tended to pay minimal attention to the limitations of the methods that they selected. For example, Koponen (1960) used a panel data set which consisted of approximately 9,000 consumers. A sample size close to 9,000 can be easily over-sensitive (Hair *et al.* 1998, p.12). That is to say, a relationship may not have existed but may be confirmed to have existed by 'statistical accident'. Without any clear justification, results from these types of careless designs could be called into question.

In addition to the selection of analysis methods, another potential problem appeared in the presentation of the results. For example, when the researchers discussed how much personality could account for consumer behaviour, they looked at R^2 for their conclusion (Claycamp 1965; Evans 1959, 1968; Kassarjian 1971; Robertson and Myers 1969; Tucker and Painter 1961). R^2 represents the variance explained by personality (the independent variable) and was the only criterion used during this phase even by thorough reviewers, such as Kassarjian (1971). However, a related, but different, concept was rarely examined (β, also known as standardised regression coefficient) (with the exception of Myers 1967, p.77). β represents the magnitude of the relationship (e.g. how much influence personality has over consumer behaviour), while R^2 represents how precise the prediction is of the relationship (e.g. how precise is the predictability of personality to consumer behaviour) (Hair *et al.* 1998, p.143). Thus, ignoring β limited the understanding of the relationship between consumer personality and behaviour.

Finally, a serious problem lay in the mixed interpretations of similar results. Two types of mixed interpretation appeared. The first type arose from the fact that some researchers tended to use a less rigorous cut-off significant criterion (such as .10) (Claycamp 1965; Horton 1979) when the norm cut-off level was .05 or below. The other type was due to similar results being interpreted differently. For example, Robertson and Myers (1969) found that they could not claim the existence of the relationship through the regression analysis of their data, even though personality explained innovative buying behaviour from 4% to 23% for four product categories (p.166). To this type of researcher, although the results were statistically significant at .05, the inconsistent performance of personality in relation to consumer behaviour represented that the role of personality was trivial. On the other hand, other more optimistic consumer personality researchers reviewed their results with a more relaxed attitude. Similar results, which Robertson and Myers (1969) may have rejected, were seen as positive in the eyes of optimistic researchers, such as Tucker and Painter (1961).

Tucker and Painter (1961), comparing thirty-six relationships (nine product categories x four personality traits) by correlation analysis, found thirteen of them were significant at .05 (p.327-328). Translating the correlation coefficients into R^2 (variance explained by personality), the range was between 5% and 30%. This result was similar to that of Robertson and Myers (1969) discussed previously, but Tucker and Painter indicated that these significant relationships were found "intuitively acceptable (p.328)" and, therefore, claimed that a relationship existed between product usage and personality (p.329). Tucker and Painter's interpretation was shared by many others (Cohen 1967; Schaninger *et al.* 1980; Sparks and Tucker 1971).

<u>Conceptualisation</u>

Compared with the difficulty of personality measurement and analysis, the problem of conceptualisation may have been the most serious hindrance to consumer personality research. There are two perspectives of conceptualisation; one is the conceptualisation prior to investigation and the other is post-hoc justification of what the investigators have found. The main problem was that no clear conceptualisation was developed. Even though some critiques warned of the danger of insufficient theorisation (Brody and Cunningham 1968, p.56; Jacoby 1971, p.224; Kassarjian 1971, p.416; Steiner 1961, p.57), the research of this period demonstrated none.

It is understandable that no specific conceptualisation was established given the exploratory nature of this period of research. However, the consumer personality research did not just lack specific *a priori* conceptualisation: it did not offer post-hoc analysis to justify the results produced. For example, Claycamp (1965) demonstrated that, compared with socio-economic factors, which accounted for 16% of the variance of consumers in choosing a financial product, personality factors were much better predictors. However, nowhere did he explicitly illustrate which personality factors influenced the behaviour under investigation. He merely said, "the eight best psychological [personality] variables account for over twenty-six percent of the total variance and socioeconomic variables account for less than sixteen percent (Claycamp 1965, p.167)." Although he went on to discuss the specific personality variation among different consumption groups, he did not explain the reasons for the occurrence of the variation. The lack of justification in the results was common during this phase of consumer personality research (Alpert 1972; Brody and Cunningham 1968; Schaninger *et al.* 1980; Sparks and Tucker 1971; Tucker and Painter 1961).

On the other hand, some of the researchers did attempt to explain their results. However, even though they attempted to rationalise their findings (Cohen 1967; Greeno *et al.* 1973), the results did not show enough evidence and the post-hoc rationalisation sounded somewhat contrived. For instance, Cohen (1967) provided reasoning of the relationship he found between product usage and the personality traits of compliant, aggressive, and detached, which were termed "interpersonal orientations (p.270)." The results demonstrated some relationships between interpersonal orientations and product usage in seven product categories (ibid p.276). When explaining the usage of cologne and after shave lotion, he said, "High aggressive people – who desire notice – used cologne significantly more often than low aggressive people (ibid p.274)." But is it possible that high compliant people – who want to smell nicer for others – used cologne? Since no relationship was found between high and low compliant people with regard to the use of cologne, no explanation was given. Moreover, when the socially consumed products, such as cigarettes, were found to have no relationship with any of the interpersonal orientations, Cohen did not offer possible reasons. Consequently, it is natural to speculate that if a relationship had been found, he would have offered a 'reasonable' explanation.

The lack of conceptualisation prior to investigation and intuitive post-hoc justification of what has been found have been referred to as "post-hoc picking and choosing out of large data arrays (Jacoby 1971, p.244)." However, this type of discovered relationship between personality and consumer is not theoretically acceptable.

In the late 1960s, these problems of personality instruments, analysis, and conceptualisation were raised (Brody and Cunningham 1968; Engel *et al.* 1969; Wells 1966) and, in the early 1970s, they were emphasised (Jacoby 1971; Kassarjian 1971;

Wells and Beard 1973). This emphasis then shaped the outlook of the following phase: the conceptualisation stage.

3.3 Research phase 2 – Conceptualisation stage

In response to the criticisms of the exploratory stage of consumer personality research, the new era focused on theorising the role of personality in consumer behaviour. This second stage of consumer personality research contained three types of conceptualisation: (i) establishment of specific hypotheses between consumer behaviour and selected general personality traits, (ii) identification of a specific consumer-related personality trait in relation to consumer behaviour, and (iii) hierarchical perspective of personality and consumer behaviour.

3.3.1 Conceptualisation with general personality measures

Although Jacoby (1971) and Kassarjian (1971) called attention to the need for careful conceptualisation in consumer personality research at the beginning of 1970s, a consumer personality investigation with careful conceptualisation had appeared before then. Kassarjian (1965) was the first theorist who theoretically developed, with care, the relationship between personality (i.e. inner- and other-directed traits) and consumer behaviour (i.e. preferences of adverts). Following Kassarjian's (1965) research and Jacoby's (1971) and Kassarjian's (1971) emphasis on conceptualisation, the consumer personality researchers started to focus on the interaction between specific traits and the specific type of consumer behaviour.

There are two types of studies that apply general personality measures. The general personality measures indicated here refer to the personality measures developed from psychology research, such as the Big Five. Although they were not designed to study consumer behaviour specifically, they were used to examine general behaviour in other disciplines, such as occupation and education. One application of general personality measures is to use the high order factor traits (i.e. the more general classification of personality), such as the factors of the Big Five, Cattell's 16 personality traits (Allsopp 1986; Mooradian and Olver 1997), or Horney's personality types (i.e. compliant, aggressive, and detached) (Cohen 1967; Slama, Williams, and Tashchian 1988). The other was to employ the lower order factor traits (i.e. the specific personality traits), such as self-monitoring. The latter type of personality traits was more popularly studied in this phase, and the traits studied included dogmatism (Coney 1972; Jacoby 1971; Schiffman, Dillon, and Ngumah 1981), cognitive personality traits (Haugtvedt, Petty, and Cacioppo 1992; Schaninger and Sciglimpaglia 1981), self-monitoring (Bearden, Shuptrine, and Teel 1989b; Becherer and Richard 1978; Nantel and Strahle 1986; Puccinelli, Deshpande, and Isen 2007; Snyder and DeBono 1985; Spangenberg and Sprott 2006), among others (Forgas and Ciarrochi 2001; McDaniel, Lim, and Mahan 2007; Vázquez-Carrasco and Foxall 2006).

The personality trait of dogmatism was one of the earliest traits to be properly (i.e. theoretically) studied by consumer researchers. Dogmatism refers to the mental mechanism that is used to defend against anxiety. According to Rokeach (1960), the more anxious an individual is and the more threats he perceives, the more the individual manifests a closed mind (p.57). In other words, high-dogmatic individuals show a tendency to closed-mindedness whereas low-dogmatic ones tend to be open-minded. Because dogmatism entails anxiety and threat, the application of dogmatism in consumer research has been linked to changes, such as proneness to buying new products (e.g. innovation) (Coney 1972; Coney and Harmon 1979; Jacoby 1971) and consumer acculturation (Schiffman *et al.* 1981) , which may induce worries and a sense of vulnerability.

Jacoby (1971) found a negative relationship between dogmatism and a tendency to try out new products (innovation proneness) among female consumers. He established that more open-minded females were more willing to use new products or switch to a new brand. His findings were replicated in a similar study conducted by Coney (1972), who examined males' innovation proneness and dogmatism. Although Jacoby's finding suggested that the variance explained by dogmatism remained low (10%), his success in developing a theoretical framework and then submitting it for examination established a model in consumer personality research. Thus, a focus on specific traits in relation to specific behaviour became the standard.

However, research on the relationship between dogmatism and innovation proneness was considered general in the sense that dogmatism is a global trait, not specific to any situation. It may have been this generality that led to a low variance explained by dogmatism. Inspired by Belk (1975), who stressed how situational factors and consumer behaviour were intertwined, Coney and Harmon (1979) revealed this interaction effect between dogmatism and innovation proneness.   They carried out investigation of the same relationship but controlled the situations for the consumers to apply innovation. The situations included buying for self and buying for others (e.g. gift-giving). Their results suggested an increase in variance explained by dogmatism in the buying-for-self situation: almost a twofold increase (17%). Therefore, the importance of environmental factors was noticed and an environment-related personality trait, i.e. self-monitoring, has been extensively studied in relation to consumer behaviour (Bearden *et al.* 1989b; Becherer and Richard 1978; Browne and Kaldenberg 1997; Nantel and Strahle 1986; Puccinelli *et al.* 2007; Snyder and DeBono 1985; Spangenberg and Sprott 2006).

According to Snyder (1974), self-monitoring refers to the use of social cues as a guideline for such behaviour as "self-presentation, expressive behaviour, and non-verbal affective display (p.526-527)." That is to say, high self-monitors have a high tendency to be sensitive to their own self-presentations and guided by the expression of others. For example, Becherer and Richard (1978) discovered that brand choice for high self-monitors was environment-driven while, for low self-monitors, it was self-driven (Becherer and Richard 1978, p.159). For high self-monitors, private brand proneness was rooted in environmental cues whereas, for low self-monitors, it was self-triggered; that is, it was influenced by their own personalities. The variance explained by personality was found to increase to over 50% for low self-monitors, compared with 15% for high self-monitors. Accordingly, low self-monitors, even under social pressure, behaved more consistently across situations while high self-monitors did not present this behavioural consistency (Nantel and Strahle 1986, p.85).

In addition to behavioural consistency, self-monitoring was related to the use of information (Bearden *et al.* 1989b; Puccinelli *et al.* 2007; Snyder and DeBono 1985;

Spangenberg and Sprott 2006). Since the lower order personality traits seemed readily related to different types of consumer behaviour, more and more researchers decided to explore these traits. The traits that have been studied included need for social affiliation, need for variety (Vázquez-Carrasco and Foxall 2006), openness to feelings (Forgas and Ciarrochi 2001), and sensation-seeking (McDaniel *et al.* 2007). These factors have been found to relate to consumer behaviour in various ways, such as brand loyalty, mood congruent effect, and interpretation of adverts.

3.3.2 Conceptualisation with consumption-specific personality measures

Because of the easiness of applying the lower order personality traits to consumer behaviour, as discussed in the previous section, many researchers endeavoured to develop tailor-made scales for consumer personality. These scales included Bearden, Netemeyer, and Teel's (1989a) susceptibility to interpersonal influence, Bearden, Hardesty, and Rose's (2001) consumer self-confidence, Richins's (1983) assertiveness and aggressiveness, Rook and Fisher's (1995) consumer impulsivity, Tian, Bearden, and Hunter's (2001) consumers' need for uniqueness, and Gountas and Gountas's (2001) personality orientations.

Regarding these scales, only Gountas and Gountas (2001) attempted the high order personality traits. They categorised consumers into four different personality types, which were named "personality orientations (p.224)." These four types are the thinking, the feeling, the material, and the imaginative. Thereafter, they (2007) used the four personality orientations to examine the relationship between personality and satisfaction drivers, including emotional states and service attributes, among tourists.

The results showed that overall satisfaction and repurchase intentions of the feeling and the material consumers were driven by their emotional states (p.74), whereas emotions did not appear to influence the thinking and the imaginative consumers (p.75).

On the other hand, other developers of scales looked at the specific consumption-related traits. For example, Rook and colleague (1987; Rook and Fisher 1995) examined impulse buying as a personality trait. Impulsivity in consumption has been related to the study of emotions (Ramanathan and Williams 2007). Ramanathan and Williams (2007) found that both impulsive and prudent consumers experienced mixed emotions (i.e. positive and negative feelings) immediately after impulsive food indulgence (p.217). Over time, the residual effect of positive emotions dominated impulsive consumers, thereby further perpetuating indulgent consumption. On the other hand, prudent consumers were left with predominantly negative emotions, which led them to seek to reduce negative emotions through changing their behaviour towards utilitarian consumption, rather than hedonic consumption (p.220).

In addition to the effects of impulsiveness on the psychological process, impulsive buying has been used to examine social influences (Rook and Fisher 1995). Rook and Fisher found a moderating effect of normative evaluation between impulsive buying trait and behaviour. Specifically, the relationship between the buying impulsiveness and related buying behaviours was significant only when consumers believed that acting on impulse was appropriate (p.305 and p.311). Thus, in their study of impulsive buying behaviour, Youn and Faber (2000) brought in the concept of environment cues (p.182). They found that impulse buying tendency was related to three different personality traits: lack of control, stress reaction, and absorption, which were activated by different environment cues. Price activated lack of control; mood activated stress reaction; and sensory stimuli (e.g. music) activated absorption.

Extending from these environmental cues, the social and normative influences were found to be so important that, among these scales, Bearden *et al.*'s (1989a) scale for susceptibility to interpersonal influence is one of the most popular personality variables to be applied. The effects of susceptibility to interpersonal influence has been related to marketing communication, especially in the contexts of cross country studies (Alden, Steenkamp, and Batra 2006; Childers and Rao 1992; D'Rozario and Choudhury 2000; Dawar, Parker, and Price 1996; Keillor, Parker, and Schaefer 1996; Kropp, Lavack, and Silvera 2005; Leach and Liu 1998; Mourali, Laroche, and Pons 2005b; Webster and Faircloth 1994), impression or preference formation (Hu and Jasper 2006; Martin, Wentzel, and Tomczak 2008; Mourali, Laroche, and Pons 2005a), and teenagers' consumption (Auty and Elliott 2001; Bristol and Mangleburg 2005; Bush *et al.* 2005; Keillor *et al.* 1996; Mascarenhas and Higby 1993).

Consumer susceptibility to interpersonal influence is defined as "the need to identify or enhance one's image with significant others through the acquisition and use of products and brands, the willingness to conform to the expectations of others regarding purchase decisions, and/or the tendency to learn about products and services by observing others and/or seeking information from others (Bearden *et al.* 1989a, p.474) (p.474)." Consistently, consumers with high susceptibility to interpersonal influences have been found to value social benefits derived from a brand (Orth 2005, p.127). Although susceptibility to interpersonal influence has been viewed as a personality trait that varies from individual to individual (McGuire 1968), cross-cultural studies indicate that the level of susceptibility to interpersonal influences can be at a collective level. For example, Mourali *et al.* (2005b) found that the level of susceptibility to interpersonal influence varies systematically with varying degrees of individualism-collectivism (p.164). It is argued that if the value of the society as a whole emphasises harmony and conformity (such as collectivistic culture), individuals in that society tend to be more susceptible to interpersonal influence (Batra, Homer, and Kahle 2001). However, this argument does not imply or guarantee that the individuals' levels of susceptibility to interpersonal influence would be in accordance to the society since cultural values can differ at an individual level (Singelis 1994). Therefore, the level of susceptibility has been investigated with lifestyle (Kahle 1995a, b) and other personality traits, such as self-esteem (Bush *et al.* 2005), need for uniqueness (Lynn and Harris 1997), purchase impulsivity (Luo 2005; Silvera, Lavack, and Kropp 2008), innovativeness (Clark and Goldsmith 2006), and opinion leadership (Clark and Goldsmith 2005).

3.3.3 Hierarchical view of conceptualising consumer personality

The development of a hierarchical view of consumer personality was triggered by the finding that specific behaviour was more closely related to specific personality traits than to generalised ones (Dash, Schiffman, and Berenson 1976; Schaninger 1976). For example, Schaninger (1976) found that anxiety over drinking was more closely related to the perceived risk of alcoholic drinks than to the general concept of perceived risk. Although the hierarchical view was not new, a proper hierarchical model of personality was not identified until 2000.

Mowen (2000) proposed a 3M model (which is short for Meta-theoretic Model of Motivation) to look at the relationship between global personality traits (such as anxiety) and domain specific personality traits (such as anxiety over drinking). Mowen's original 3M model comprised four levels of personality traits, namely, elemental traits, compound traits, situational traits, and surface traits. The elemental traits are the higher order personality traits, such as the Big Five. These elemental traits combine to form compound traits, which are the lower order personality traits, such as competitiveness and task orientation. These elemental and compound traits combine with situational influences to cause enduring behavioural tendencies within general situational contexts, such as impulsive buying and value consciousness. Finally, the elemental, compound, and situational traits combine to yield surface traits, which are enduring dispositions to act in specific behavioural contexts. The surface traits explored by Mowen (2000) included sports participation, healthy diet lifestyles, and proneness to bargaining. Later, these four levels were revised to three levels by Mowen and colleague (Harris and Mowen 2001) by combining compound traits and situational traits. These three levels were re-named cardinal, central, and surface traits.

Empirical research of the 3M model was mainly conducted by Mowen and colleagues (Harris and Mowen 2001; Mowen 2000, 2004; Mowen, Park, and Zablah 2007; Mowen and Spears 1999) with few exceptions (Bosnjak, Galesic, and Tuten 2007). This type of work did not seem to have a clear focus. All they attempted to achieve was to prove a statistically significant relationship between the personality traits, though theorising was rather fragile.

For example, Mowen *et al.* (2007) used as many as sixteen traits, including eight elemental traits (extraversion, conscientiousness, openness to experience, agreeableness, neuroticism, need for material resources, need for arousal, and need to protect and enhance the body), two compound traits (need for play and need for information), four situational traits (fashion innovativeness, susceptibility to influence, shopping enjoyment, and value consciousness), and two surface traits (sending market information and receiving market information) to examine word-of-mouth communications. However, among twenty-eight relationships between the traits they tested, only twelve relationships were significant. No explanation was given. Moreover, the results did not show a clear 'hierarchy'. A clear hierarchy indicates that the domain specific traits (i.e. situational traits) are supposed to display greater influence than the general traits (i.e. elemental traits) on behavioural tendencies (i.e. surface traits). For example, the standardised coefficient of the relationship between openness to experience (an elemental trait) and receiving market information was .26 which is greater than .18 between fashion innovativeness (a situational trait) and receiving market information. Still, no explanation was given.

On the other hand, without applying the 3M model, Clark and Goldsmith's (2005) approach was more straightforward. A clear personality hierarchy was therefore established. They did not select many personality traits, only one global personality trait (self-esteem) and two situational traits (susceptibility to normative influence and need for uniqueness). These traits were related to market maven[1] tendency and opinion leadership. They found that the explained variance increased from abstract concepts to specific concepts. That is, general personality constructs typically explain far less variance than specific consumption-related personality constructs.

3.3.4 Criticisms

Two main criticisms appeared in this phase of consumer personality research. First, the role of personality in consumer behaviour was unclear. Kassarjian (1971) defined personality as the "generalized patterns of response or modes of coping with the world (p.409)." According to this definition, personality is seen as a predictor of consumer behaviour. However, Nakanishi (1972) viewed personality as related to the way the individual adjusts to the changes in his environment (p.62). As such, rather than being a predictor of behaviour, personality moderates the effect of environment changes on behaviour. The ambiguous role of personality has endangered the conceptualisation.

The second criticism lay in the development of over-fragmented personality traits. Almost every consumer researcher can come up with a consumption-related

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[1] The term 'market maven' was first used by Feick and Price (1987). They used this term to indicate "individuals who have information about many kinds of products, places to shop, and other facets of markets, and initiate discussions with consumers and respond to requests from consumers for market information (p.85)."

trait. It has been acknowledged that the advantage of this type of development made the research in consumer personality more flexible. However, over-specific personality traits suffered a generalizability problem because they were too specific to be widely applicable in a consumption context (Crosby and Grossbart 1984, p.448). Moreover, some of the apparent relationships do not seem worth the trouble of investigation. For example, Orth (2005) used one of the most popular scales, susceptibility to interpersonal normative influence, to find out that this susceptibility was positively related to the value of social benefits perceived by the consumers, while the definition of susceptibility to interpersonal normative influence is closely related to social values (p.62). Although theorisation on the relationship between consumer personality and behaviour improved, compared with the research in the first phase, the improvement is considered limited. No strong theory was put forward as a basis on which to ascertain the relationship between consumer personality and behaviour.

3.4 Research phase 3 – Integration stage

In the second research phase on consumer personality, the researchers explored the relationship between specific personality traits and consumer behaviour and minimised the "picking and choosing (Jacoby 1971, p.244)" strategy of the first phase. Although the studies attempted to improve on the suggestions of Kassarjian (1971) and to focus on conceptualising consumer personality in relation to behaviour, the researchers could not avoid dividing individuals into meaningless pieces when examining the specific personality traits. Kassarjian and Sheffet (1991) noticed this phenomenon and stressed that consumers should be viewed as a "dynamic whole (p.293)," and that individual behaviour was the result of the interaction of a variety of influences, such as personality, needs, motives, moods, memories, attitudes, beliefs, values, situations, and so on (p.294).

This observation was consistent with the interactionist view of personality. Endler and Rosenstein (1997) emphasised the importance of the interaction between an individual and his related real-world in studying his behaviour (p.64). The real-world refers to the social context in which the consumer exists. In studying consumer personality, they attempted to relate the interactional model to psychographics, that is, intrinsic psychological sociocultural characteristics (Schiffman and Kanuk 1991, p.656), which include values and lifestyles (Endler and Rosenstein 1997, p.62).

Following this rationale, Baumgartner (2002) proposed to apply McAdams's (1996) three-tiered framework in researching consumer personality. Instead of using personality, Baumgartner used the word, *personology*, which was coined by Henry Murray in 1938 in his book, *Explorations in Personality*. Murray (1938) devised the concept of personology to convey that personality did not work alone, but with influence from the environment as well as experience. He said,

> Our guiding thought was that personality is a temporal whole and to understand a part of it one must have a sense, though vague, of the totality (p.4).

Murray included the study of life stories and he believed that, by so doing, one was able to "discover basic facts of personality (p.4)". Using the same terminology, Baumgartner (2002) proposed the application of a framework, developed by one of Murray's followers – Dan McAdams (1996), who suggested a three-tiered framework.

McAdams demonstrated that this separate but overlapping study of individuals could bring the emphasis of social science into context. The three tiers involve personality, personal concerns, and life stories. Personality refers to personality traits, which are at the first level. These traits provide a general description of an individual. The second level, personal concerns, refers to the goals and tactics that contextualise an individual's life in time, place, and role. Finally, the third level, life stories, is an internalised and integrative narration of the individual's past, present, and future. Through the life stories, the individual creates the self; that is, his own identity.

Baumgartner developed a three-dimensional typology of purchase behaviour, and suggested combining this typology with McAdams's framework in the hope of developing a consumer personology (p.289). These three dimensions included high versus low involvement purchases, deliberate versus spontaneous purchases, and thinking versus feeling purchases (p.290). The combination of the three dimensions generated eight types of behaviour, namely, extended purchase decision-making, promotional purchase behaviour, repetitive purchase behaviour, casual purchase behaviour, symbolic purchase behaviour, exploratory purchase behaviour, hedonic purchase behaviour, and impulsive purchase behaviour (Table 3-2).

Table 3-2 Baumgartner's (2002) typology of consumer personology

	High involvement		Low Involvement	
	Deliberate	Spontaneous	Deliberate	Spontaneous
Thinking	**Extended** purchase decision-making	**Promotion** purchase behaviour	**Repetitive** purchase behaviour	**Casual** purchase behaviour
Feeling	**Symbolic** purchase behaviour	**Exploratory** purchase behaviour	**Hedonic** purchase behaviour	**Impulsive** purchase behaviour

Although Baumgartner's (2002) typology has not yet been tested empirically, his emphasis on McAdams's three-tiered framework brought self-identity into the consumption context. At the third level of McAdams's framework is life stories, which are an internalised integration of the individual, and through which the individual creates his identity. This emphasis was echoed by other researchers using self-identity theories in relation to personality (Fennis, Pruyn, and Maasland 2005; Graeff 1996; Greeno *et al.* 1973; Shank and Langmeyer 1994; Shavitt, Lowrey, and Han 1992).

Greeno *et al.* (1973) were among the first researchers to relate personality to self-identity. They used thirty-eight products to reflect actual self because they believed that products carried the symbolic meanings that were used to facilitate the performance of the self (p.64). For this reason, if consumers ranked a certain group of products highly, the high score was interpreted as showing how significant a role those products played in the consumers' life. This conceptualisation was established quite early, and was premature. Although self-identity theory supported the conceptualisation, the discovery of a relationship between personality traits and the ranking of the products did not explain its occurrence.

Not until the 1990s was the link between personality, self-identity, and consumption noticed. At the beginning of the conceptualisation, only self-monitoring was mentioned. This was because, while low self-monitors tended to maintain a consistent self-image, high self-monitors tended to view the self as a divisible entity, which could present different selves on different occasions via their choice of consumption (Hogg, Cox, and Keeling 2000, p.661).

Shavitt, Lowrey, and Han (1992) studied the relationship between self-monitoring and product evaluation, which they believed could be a source of a consumer's self-identity. For pure utilitarian-oriented or pure social-expression-oriented products, the results of the product evaluation were similar regardless of the level of self-monitoring. However, for products with both utilitarian and social values, high self monitors would focus on social values, whereas low self-monitors would concentrate on the utilitarian functions. Although a difference in the focus of product evaluation was found, it was difficult to associate this difference with self-identity.

Therefore, instead of using product functions to reflect self-identity, Graeff's (1996) approach was more straightforward. He applied self-brand image congruence. Meanwhile, Graeff also turned his attention to the observability of consumption. He found that self-monitoring moderated the relationship between self-brand image congruence and brand evaluation for publicly consumed brands, but not for privately consumed brands. Compared with low self-monitors, high self-monitors demonstrated that, for publicly consumed brands, they evaluated the brand more positively when they perceived high consistency between the images of themselves and of the brands (p.493).

Although some positive findings were discovered by applying self-monitoring to self-identity, the results were not strong enough to reveal the relationship between personality-as-a-dynamic-whole and brand choice. Perceiving the need to relate personality to brand choice on the basis of self-identity theory, Shank and Langmeyer (1994) abandoned the use of single traits, but went back to look at personality as a whole. They used the Myers-Briggs Type Indicator (MBTI) to categorise consumers into four types, namely, extraversion/introversion, sensing/intuition, thinking/feeling, and judging/perceiving (p.159). Brand image of the four pre-selected brands was tested by such semantic differential items as expensive/inexpensive, good/bad, safe/not safe, and so on (p.161). However, the results were disappointing. Even though consumers with various personalities perceived these four brands differently, the relationship between consumer personality and brand image was not strong (p.163). Yet, a closer examination revealed that this conclusion that no relationship existed between consumer personality and brand image did not seem to be logical. For example, the researchers attempted to relate self-concept to consumer behaviour through the relationship between consumer personality and brand image, by studying general brands, which were pre-selected by the researchers, rather than the brands the consumers used. The weak relationship may have resulted from the fact that consumers were indifferent to all four brands examined in the study.

When consumer personality entered the third phase, many researchers had been discouraged by a series of Kassarjian and colleague's (Kassarjian 1971, 1979; Kassarjian and Sheffet 1981, 1991) reviews of the personality application to consumer research. Even though it has been acknowledged that these reviews did not change much between 1971 and 1981, and hardly changed at all between 1981 and 1991 (Albanese 1993, p.28), many still found personality intimidating (or unreliable) to study. Hence, the investigations of personality and brand image bridged by the self-identity theory are not many. On the other hand, attention has shifted to the relationship between self-identity and consumption, which will be discussed in the next chapter (Chapter 4)

3.5 Summary

The exploratory phase of consumer personality research suffered from the problems of theorisation and the usage of clinically developed personality instruments. The second phase of consumer personality research was affected by problems of over-fragmented personality traits and lack of theoretical values to back up the newly developed personality traits. However, the integration phase of the consumer personality deserved more attention than it received (Bagozzi 1994, p.8).

Kassarjian's (1971) classic definition of personality was mistaken; he stated that "… analysts do not agree on any general definition of the term "personality," except to somehow tie it to the concept of consistent responses to the world of stimuli surrounding the individual. Man does tend to be consistent in coping with his environment (p.409)." This conclusion overlooked the classical debate concerning situation-personality (Chapter 2.6, p.40-41): some researchers indicate personality is consistent across environment whereas others argue otherwise. Because of Kassarjian's definition, environmental cues or social influences were linked to consumer personality. Although the importance of the consumption context is not denied, consumer personality may deserve more attention in its own right.

To position personality in consumer research, a proper definition should be offered. As stated in Chapter 2.6 (p.42), personality is an individual's perception of his configuration of cognition, emotion, and motivation, which activates behaviour and reflects how he adjusts to the environment by incorporating his life experience. From the perspective of self-perception, this definition mirrors self-identity. Thus, a gap originating in the integration phase is identified.

That gap lies in how to match brand image and consumer personality in order to reflect self-identity. Although some researchers have endeavoured to match brand image and consumer personality, the results were discouraging. The problems may be the measurement scales they used and the focal brands they selected. For example, they used different measures for consumer personality and brand image, which can make the relationship difficult to establish. Even when they used the same measures, the items emerged from brand image, rather than from personality. The concept of brand image cannot fully encompass the wholeness concept conveyed in self-identity.

In addition to the measurement instruments, the selection of focal brand was problematic. While the researchers attempted to ascertain the relationship between personality and brand image on the basis of self-identity theories, they tended to select brands for the research participants. The participants could be indifferent to the brands selected for them; thus, the hope of establishing the link between consumer personality and brand image was a vain one.

However, no research with rigorous methods has yet examined the gap in the literature in matching brand image and consumer personality in order to reflect self-identity. For the purposes of studying this further, a chapter discussing the relationship between self-identity and consumption will now follow.

Chapter 4. Consumer Behaviour

4.1 Introduction

The traditional view of consumer behaviour stems from an economic and mathematic position and focuses on consumers' optimisation of decision outcomes (Bettman 1979, p.17; Engel, Blackwell, and Miniard 1986, p.35; Hansen 1976, p.118; Howard 1989, p.29). This strong cognitive reasoning tradition missed two other elements that have gained much attention in the contemporary research of consumer behaviour; that is motivation (Bayton 1958) and emotion (Elliott 1998), which are linked to self-identity (Leary and Tangney 2003, p.9-10).

Based on self-identity theories and postmodern concepts, it is argued that consumers use consumption to construct their identities (Belk 1988; Elliott and Wattanasuwan 1998). Consumption is given meanings by the consumers' perceptions of significant experience and feelings through social interaction (Holt 1995). It is then discussed how consumers use products or brands to simulate their own identities. Because the identity construction focuses on 'significance' and 'meanings', three critical concepts are reviewed in relation to consumer behaviour; that is, involvement, feeling, and brand meanings. To relate consumption to self-identity, the discussion of brand meanings will surround the anthropomorphised brand characteristics, namely, brand personality and brand relationship.

This chapter discusses consumer behaviour; in particular, it focuses on how and why consumption is related to self-identity. Thus, the relationship between self-identity and consumption will lead the discussion. The literature of involvement, feeling, and brand meanings (brand personality and brand relationship) will then be examined.

4.2 Self-identity and consumption

4.2.1 The nature of self-identity

Self-identity is a term that has been used loosely, and interchangeably with the 'self', 'identity', or 'self-concept', in psychology (Epstein 1973, p.404; Leary and Tangney 2003, p.6; Smith 1992, p. 183). The first proper account of self-identity can be traced back to as early as 1890 when James published his two volumes of *Principles of Psychology*. He (1890) argued that self-identity was organised by memories, habits, and a sense of the self-owned identity (p.229). Therefore, consciousness is important in constructing self-identity. Whatever belongs to the person and the person recognises as belonging can be categorised into self-identity, or the "empirical self," as James called it (p.291). This includes 'I', 'me', and 'my'. As an acting agent, self-identity originates from 'I think' or 'I feel'. According to James, it is not the thoughts or feelings that are important, but the 'I' ('my' thoughts or 'my' feelings) that is important. Without the 'I', thoughts and feelings can be devoid of self-identity.

Consequently, James identified three types of self-identities, namely, the material self, the social self, and the spiritual self (p.292-296). The material self is an extended self, which contains the individual's own body, family, and possessions. It is a broad sense of the individual's possessions, including bodily parts and interpersonal relationships. These possessions are not valued simply for their functions, but valued because they are a part of the self (Brown 1998, p.22). The social self, on the other hand, includes the views others hold of the individual. How an individual is regarded and recognised by others depends on what social roles he plays (Roberts and Donahue 1994, p.214-215). These social roles include personal relationships, ethnic backgrounds, religious beliefs, political affiliation, stigmatised groups, and professions (Deaux *et al.* 1995, p.287-288). Finally, the spiritual self refers to the individual's "inner being (James 1890, p.296)." It is the psychological self and comprises the intangible belongings of the individual. These belongings include the individual's perceived abilities, attitudes, emotions, interests, motives, opinions, desires, and so on (Brown 1998, p.25).

While James focused on the self-as-an-acting-agent, Cooley (1964) emphasised socially-determined-self-identity. He called it a "looking-glass self (p.184)." The looking-glass self (or the reflected self) indicates that the development of self-identity is based on the messages an individual perceives that he receives from others. Accordingly, there are three components of the looking-glass self: (i) an individual's perception of how he appears to others, (ii) his perception of how others judge that appearance, and (iii) his feelings about the perceived judgement from others (Brown 1998, p.55). The feelings serve as reinforcement. If the individual has positive feelings, he maintains his perceived 'appearance'; otherwise, he modifies it. To Cooley, in terms of development of self-identity, it is not important how others actually make a judgement, but it is important how the individual perceives how others view him and how he feels about others' judgement. Self-identity is rooted in the eyes of others, though, seen through the individual's perception.

On this ground, Kinch (1963) developed a circular model including self appraisals (the individual's perception of self-identity), perceived appraisals (his perception of others' evaluation of his self), actual appraisals (actual appraisals from others), and actual behaviour (p.483). He suggested that an individual's self-identity was maintained, reinforced, or modified on the basis of whether he perceived favourable or unfavourable evaluations. However, this model has been qualified because people are not very good at knowing what any particular individual thinks of them, but better at knowing what people in general think of them (Kenny and DePaulo 1993, p.158). This finding is consistent with Mead's (1934) view of self-identity.

Rather than centring self-identity as a reflected self as Cooley did, Mead (1934) stressed the role of social interaction in developing self-identity (p.135). That is to say, an individual develops his self-identity through adopting the perspectives of others by his perception of how others view him (Brown 1998, p.83). This is because he is concerned with how others react to him (Epstein 1973, p.406). As self-identity is developed, the individual becomes socialised. While Cooley's looking-glass self focused on the view of a particular other, Mead argued that a true socialisation required the ability to adopt the perspective of society at large (Brown 1998, p.85); therefore, he stressed the importance of the individual's perception of the generalised other; i.e. various social groups (Tice and Wallace 2003, p.92). This view explains that an individual possesses several identities according to the role he plays or the group he interacts with (Roberts and Donahue 1994, p.214-215).

Mead's view on how self-identity is cultivated is in line with Tajfel's (1982) social identity. Social identity, according to Tajfel (1982), refers to the individual's perception that he belongs to certain social groups, which offer him significant membership in the sense of emotional bonding and relevance of the value system (p.31). In a manner similar to Tajfel's social identity, individuals cognitively categorise themselves into certain groups by conforming to the group norms (Abrams and Hogg 1990, p.196). This has been referred to as self-categorisation theory. The self-categorisation process aims at optimising the meanings the individuals perceive to be important; thereby, enhancing their self- (or social) identities. One may argue that there is no self-identity, but only social identity since all identities are socially determined. However, the identity, though reflect others' judgement, is always perceived by each individual. Therefore, even though self and social identity may indicate the same identity, self-identity is used throughout the thesis.

In a broad sense, self-identity is an individual's perception of himself (Shavelson, Hubner, and Stanton 1976, p.411), constructed from social interaction (Kinch 1963, p.481; Mischel and Morf 2003, p.25) with significant experience and feelings (Epstein 1973, p.407). It is an organisation of qualities that the individual attributes to himself. The qualities include both the expressions the individual uses to describe himself and the roles in which he sees himself. These qualities can be created, modified, or maintained by self-presentation behaviour (Brown 1998, p.160; Schlenker 1975, p.1030-1031), and categorised into multiple selves, such as actual self, ideal self, social self (Higgins 1987, p.320-321), and possible selves (Markus and Nurius 1986). Thus, self-identity is considered both a cognitive-affective-active system and a social-interactive-self-constructive system (Mischel and Morf 2003, p.28). This broad account of self-identity has led researchers to treat it as the total person, as personality, as the experiencing subject, as the beliefs about oneself, and as an executive agent (Leary and Tangney 2003, p.6-7). This view of self-identity is in accordance with the social-learning and humanistic views of personality discussed in Chapter 2.3-2.4.

4.2.2 Self-identity and consumption

James's (1890, p.292) explanation of material self is consistent with Belk's (1988) idea of extended self. Belk argued that "we are what we have (p.160)." The extended self involves possessions and, more importantly, the experience attached to those possessions. Thus, various facets of consumer behaviour, including product acquisition, product care, gift-giving, or disposition of possessions, are considered major contributors to and reflections of self-identity.

The reason that possessions are valued lies in the meanings the owners assign to them. The meanings are constructed through the owners' experience: experience from interacting with society. Gardner and Levy (1955) were among the first researchers to apply the concept of meanings to products and brands in marketing (p.35). They indicated that the meanings represented consumers' values and judgements; hence, marketers may need to shift their attention from creating advantageous functions to forming desirable meanings. These meanings can be brought forward by brands and used to enhance consumers' self-identities (Levy 1959, p.124).

Thus, consumers do not consume so much of the functional aspect of a product; rather, they rely on the symbolic meanings; that is, the meanings underlying the product or the brand (Elliott 1997, p.286). This is called symbolic consumption. Symbolic consumption can be best illustrated by hyper-reality of postmodernism (Firat 1991, p.70). Hyper-reality refers to consumers' power to 'simulate' reality. The simulated reality is the perceived reality, but not the reality *per se*. Each product and brand has an image. This image, perceived by the consumer, may be communicated by the brand company or co-created in the society. The consumers use the image to integrate into their life stories; and thereby simulate reality. For example, a person who cycles to work everyday may intend to show that he is concerned with environmental issues. To this end, consumption is not the result, but the start; the start to construction (or, in postmodern terminology, to 'production') of meanings (Firat 1991, p.71-72). Although postmodernism has suggested that consumers are able to construct meanings in whatever way they wish (Firat and Venkatesh 1995, p.260), research has shown that the meanings of various products or brands are mainly used to present who the owners are; i.e. the self-identities (Thompson and Haytko 1997, p.35-36). This view is also in line with Thompson's (1995) argument that individuals are "symbolic projects (p.210)." According to Thompson, individuals use the available symbolic materials (such as consumption) to actively construct a narrative of self-identity; these symbolic materials carry what the individuals believe in accordance with the qualities of their own identities.

But how do the consumers interpret the symbolic meanings? The interpretation of the meanings is emotional, not rational. Elliott (1998) argued that consumption choice was driven by feelings (p.95-97). This view is in line with

Cooley's (1964) emphasis on self-feeling (p.170). According to Cooley, positive feelings motivate an individual to maintain his behaviour, whereas negative feelings motivate him to change. Self-identity is constructed by this behavioural maintenance and modification. Consistently, Elliott indicated that consumers are motivated by the feelings to extract brand meanings in constructing, maintaining, and communicating themselves with others. Because of the emotional nature of decision-making, the justification for choice is usually post-hoc rationalisation. It can be circular in that this post-hoc rationalisation goes back to create, maintain, or change brand meanings.

Both feelings and meanings are socially-determined. So is self-identity (Mead 1934, p.140). Consumers buy the product or brand because of the underlying meaning assigned to them in a social context[2]. Moreover, the success of an individual's role performance depends on the consistence of social meanings carried by his possessions. Therefore, the choice of a product or a brand should be treated as a cause of social behaviour, rather than as a result (Solomon 1983, p.319). This social interaction view of self-identity via the use of product or brand was supported by Grubb and Grathwohl (1967, p.24). They indicated that, without self-identity theories, the early personality work lacked a strong theoretical ground between the personality of the individual and the product image (p.23). Self-identity is constructed through social experience; that is, an individual develops his self-perception on the basis of the reactions from others (Belk, Bahn, and Mayer 1982, p.13). The control of his

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[2] Although some researchers (e.g. Richins 1994) have argued that consumers may create 'private' identities through the use of socially-invisible products, the meanings of the private identities are still socially-determined and perceived by the consumers.

behaviour, partly through his possessions, is able to facilitate proper interpretations of his performance (Goffman 1959, p.21), and, thus, of his self-identity.

Subsequently, researchers have linked consumer behaviour to the construction of self-identity (Elliott and Wattanasuwan 1998). Although some early researchers attempted to associate personality with self-identity in the hope that they could find a 'match' between personality and brand or product image (Evans 1959; Tucker and Painter 1961; Westfall 1962, among others, see the discussion in Chapter 3.2.1), they did not stress the role of self-identity. According to Sirgy (1982), this absence of self-identity in their theorising of consumer personality work may have been the reason that no strong correlations had been found (p.283). To support Sirgy's argument, Grubb and Hupp (1968) found that, by studying the car product category (i.e. Pontiac series and Volkswagen), car owners perceived a great similarity between their self-image and the image of other car owners of the same brand (p.60). On the other hand, they perceived themselves to be very different from the car owners of the competing brand. The successful matching between self-identity and product or brand image is referred to as self-congruency (or self-congruity) model (Sirgy *et al.* 1991).

Grubb and Stern (1971) took this finding a step further to examine the social functions (i.e. the expressive meanings of brand) used by the consumers. This examination was done by investigating the perceptions of significant others. Within the same product category (cars), the results suggested that the brand owners' self image was in line with the perceptions of their significant others with regard to the generalised users of the same brand, but different from those with the competing brand. In other words, the consumer and his significant others perceived a similar stereotype of the generalised users of the consumer's brand, which was similar to the consumer's own self-concept. Thus, the use of a brand was a part of the social interaction process from which the user constructs his self-identity (Grubb and Stern 1971, p.384).

In addition to the perspective of social interaction, various researchers stressed the importance of experience for constructing self-identity in terms of product or brand usage (Wright, Claiborne, and Sirgy 1992, p.315). For example, Belch and Landon (1977) studied a wide range of fast-moving consumer products, including coffee, lotion, wine, etc. and found that self-congruence increased with experience (p.254-255). If the respondents owned the brands, there was more congruence between the images of themselves and of the brands. It was a clear linear relationship. This evidence echoes the stress that self-identity theory places on self as an "experiencing subject (Leary and Tangney 2003, p.6)."

However, while Birdwell (1968) agreed with the strong congruency between the images of brands and the brand users in general in the car category (p.80), he discovered a less conceptual agreement between the user's self image and his car image in the less expensive car segments. This fact led him to call attention to the difference between ideal self and actual self with regard to consumption. After investigating a wide range of products, Hamm and Cundiff (1969) concluded that the images of some products did express actual self, thus a high congruence was observed between the images of the product and of the consumers (p.472). On the other hand, other products were expressive in terms of the consumers' ideal self. This result was further substantiated by Landon (1974, p.48). Therefore, a theoretical issue was raised with regard to the relationship between consumption and self-identity (Hughes and Guerrero 1971, p.125). Hughes and Guerrero (1971) suggested that different goals of the image congruity between the consumer and the product would lead to different levels of congruence. Whether the consumer is to purchase for the purpose of actual self congruency, ideal self congruence, or social self congruence depends largely on the motivation embedded in the context (i.e. environment). This view has been strengthened by Malhotra's (1988) investigation of residence area selection, Munson and Spivey's (1980) examination of conspicuous products (i.e. cars versus tennis rackets), Aaker's (1999) concept of malleable self, among others. Specifically, Aaker's treatment of malleable self by using self-monitoring to emphasise the environment cues was one of the investigations into the interaction between self and environment contexts. These investigations have been discussed in Chapter 3.3.1 (p.61-62), Chapter 3.3.2 (p.64-65), and Chapter 3.4 (p.72-73).

Kleine *et al*. (1993) concluded that a specific self in a specific situation cannot represent a complete whole (p.299). A combined social self is able to uncover how products or brands fit into consumers' lives. Therefore, at the conceptual level, the studies of self-identity have been split into actual self, ideal self, social self, expected self, and situational self. However, Sirgy (1982) questioned the extent to which these constructs were independent of one another, and the precise nature of their interaction (p.294). If self-identity includes 'I', 'me', and 'my', as James, Cooley , and Mead suggested, are 'my' social self, 'my' ideal self, 'my' possible selves, and 'my' other selves not included in self-identity? By studying beer, cigarettes, bar soap, and toothpastes, Dolich (1969) uncovered that the ideal self image was generally found to have the same relationship with product image as actual self image (p.84). Even when some researchers did find a variation between ideal self image and actual self image, the results showed that actual self image outperformed ideal self image in predicting purchase intentions (Belch and Landon 1977, p.255) or brand favourability (Ross 1974, p.47).

Despite the potential conceptual problem of the split self, self-congruency has been found useful. It has been found to positively relate to brand loyalty (Bellenger, Steinberg, and Stanton 1976, p.31) and brand preferences (Dolich 1969, p.84; Ross 1974, p.47). Moreover, it has been used to explain why consumers avoid some brands (Auty and Elliott 1999, p.442-443; Berger and Heath 2007, p.132). It has also extended to the study of functional-congruity (Sirgy *et al.* 1991). Although self-congruence has been demonstrated to have both theoretical and managerial contributions, the measurements were rather questionable (Sirgy 1982, p.295-296).

Early researchers applied personality measures (as discussed in Chapter 3.2.1), but they focused more on the relationship between personality and consumer behaviour (such as information processing), and were concerned less with the relationship between self-image and brand-image. Later, when self and brand images were blended into the construction of self-identity, the researchers began to apply various measures, but not personality measures. This may have resulted from the weak performance of the personality measures in the consumer personality research. However, to measure 'self', the conceptualisation is not so clear that a suitable battery can be anchored to capture the concept. As a result, researchers still tended to use adjectives (i.e. the lexical approach that the trait personality psychologists use, as discussed in Chapter 2.5.2, p.36) to evaluate self image, product image, and brand image (Belch and Landon 1977; Bellenger *et al.* 1976; Birdwell 1968; Dolich 1969; Grubb and Hupp 1968; Grubb and Stern 1971; Hughes and Guerrero 1971; Landon 1974; Malhotra 1981; Munson and Spivey 1980; Ross 1974; Sirgy and Danes 1982; Sirgy *et al.* 1991). However, the development of these measurements was also problematic since they 'emerged' from brand image, rather than from self-identity. For example, Dolich (1969) used adverts to generate an adjective pool that described product image (p.81). After the items were finalised, they were applied to both the products and the consumers. Many other researchers followed the same approach, such as Sirgy *et al*. (1991, p.370). On the other hand, instead of using indirect methods to calculate self-congruence, some researchers chose to use a more direct approach. For example, Escalas and Bettman (2003) developed a 7-item Likert-type scale to identify self-brand connection, such as "Brand *X* reflects who I am (p.343)." Although this approach may be useful for conspicuous products, it may have difficulty in capturing the connection between consumers and other products, especially products with low involvement: because self-driven goals can be conscious or unconscious (Bargh 1994, p.24-25).

4.3 Involvement

The construction of self-identity stresses 'significance', such as significant experience and significant others. Therefore, the role of involvement may be critical to this significance; and thereby, influence the construction of self-identity.

4.3.1 Involvement and self identity

Involvement is related to self identity (Sherif and Cantril 1947, p.117) and better understood through the lenses of attitudes and value (Hupfer and Gardner 1971). Involvement initially appeared in the social psychology literature, and was first extensively reviewed as ego-involvement by Sherif and Cantril (1947). Ego, defined by Freud, refers to the self. Unlike other psychologists who assume the innate nature of the ego, but like the behaviourists (Chapter 2.3), Sherif and Cantril viewed ego as a result of learning, the process of accumulating the self-identity (p.4).

According to Sherif and Cantril (1947), ego consists of the attitudes that are related to the experiences of 'I', 'me', and 'my' (p.93). The formation of these attitudes is via the social learning process, which shapes the value system of the individual. In other words, involvement is a form of attitudes, through which an individual demonstrates his value system. Rokeach's (1968) interpretation of attitudes, values, and value system provides a clear distinction among them (p.550-551). According to Rokeach, an attitude, predisposing one to respond in some preferential manner, has stable characteristics and consists of several beliefs about a specific stimulus. The stimulus is an object or a situation and the nature of the stimulus can be concrete (e.g. computers) or abstract (e.g. social norms). An attitude focuses directly on the specific stimulus while a value goes beyond the stimulus to provide a standard for guiding an individual's attitudes, actions, and emotions. To be more specific, a value is a criterion which guides an individual's modes of conduct, explains the conduct, evaluates the conduct, and helps the individual decide whether to influence the attitudes, values, and behaviour of others. It has a distinct preference for a specified mode of behaviour. A value system signifies a hierarchical arrangement of values, a rank-ordering of values along a continuum of importance. The value system acts as a mechanism for resolving conflicts between alternative modes of behaviour.

The individual relies on the value system to identify himself, i.e. the ego. When the attitudes are aroused, an individual becomes involved. When the individual is involved, discrimination, judgement, perception, remembering, thinking, and explicit behaviour are presented, modified, or altered (Lastovicka and Gardner 1979, p.55). Ostrom and Brock (1968) pointed out that the degree of involvement with a stimulus could be determined within the value system (p.375). The level of involvement is determined by the number of values engaged with the stimulus, the centrality of these values, and the relatedness of the stimulus to these values (Tyebjee 1979a, p.99). But attitudes do not carry identical importance in the mind of each individual. Accordingly, the degree of ego-involvement is determined by the relative importance of the various values. This position echoes Rokeach's (1968) suggestion that individuals have a hierarchy of values "along a continuum of importance (p.551)."

4.3.2 The role of involvement in consumer behaviour

Extending from Sherif and Cantril's (1947) view on ego involvement, Day (1970) defined it as "the general level of interest in the object or the centrality of the object to the person's ego structure (p.45)." Relating this definition to consumer behaviour, Hansen (1972) indicated that involvement reflects the extent to which an individual is engaged in a particular situation (p.135). To be more specific, Howard and Sheth's (1969) product importance is claimed to be the label for "degree of involvement (p.73)." It refers to the saliency of one product class versus another. In advertising research, Krugman (1966) quantified the degree of involvement by defining involvement with a stimulus as the number of "connections" that one can make between the stimulus and one's own life per minute (p.584). The general agreement of involvement is that it serves to influence the process, such as decision process or information process (Mitchell 1979, p.194; Mitchell and Olson 1981, p.327), and that it is a motivational state, i.e. motivation to process (Bloch and Richins 1983, p.73; Celsi and Olson 1988, p.223).

In summary, involvement is defined as an internal, motivational state at an individual's level. It is "a person's perceived relevance of the object based on inherent needs, values, and interests (Zaichkowsky 1985, p.342)." Thus, a consumer's level of involvement with a stimulus, such as a product, brand, or advertisement, is determined by the degree of personal relevance he perceives. According to Celsi and Olson (1988), personal relevance is a subjective experience or feeling of the consumer (p.211). Involvement is a term that is used to emphasise that experiential, phenomenological nature.

Reference to involvement in consumer research occurred as early as 1958 (Bayton 1958). However, interest in involvement in consumer research did not increase until the 1970s (such as Houston and Rothschild 1978; Hupfer and Gardner 1971; Lastovicka and Gardner 1979; Mitchell 1979; Rothschild 1975, 1979; Tyebjee 1979a, among others), and followed Krugman's (1962; 1965; 1966; Krugman and Hartley 1970) series of classic papers in the 1960s discussing the relationship between low product involvement and advertising. Involvement has been viewed as so critical to understanding consumer behaviour that various papers developed (e.g. Bloch 1981; Higie and Feick 1989; Laurent and Kapferer 1985; McQuarrie and Munson 1992; Mittal 1989a; Zaichkowsky 1985, 1994) and discussed (Andrews *et al.* 1990; Day, Stafford, and Camacho 1995; Knox, Walker, and Marshall 1994; Mittal 1989b) scales for involvement in the 1980's and 1990's.

Involvement with different objects leads to different responses (Zaichkowsky 1985, p.341). For example, involvement with products has been hypothesised to lead to greater commitment to brand choice (Howard and Sheth 1969). The consumer literature suggests that an individual can be involved with advertisements (Krugman 1966; Wright 1974), with products (Howard and Sheth 1969; Hupfer and Gardner 1971), or with purchase decisions (Mittal 1989a; Mittal and Lee 1988; Tyebjee 1979b). Although the individual can be involved with different objects, involvement serves as a moderator to the stages of the individual's decision process which lead to actual behaviour (Mitchell 1979, p.194). Even though involvement may influence all the stages of the decision process, the literature suggests that the influences of the motivation for information search (Bloch, Sherrell, and Ridgway 1986) and of the persuasive power of information acquired (Celsi and Olson 1988) are most critical to consumer behaviour because they are associated with how consumers come to perceive a brand, understand a brand, or even create brand meanings.

"Heavy searchers tend to be heavy spenders (Bloch *et al.* 1986, p.124)." This is also why information search has occupied an important position in consumer behaviour. It is generally agreed that involvement is positively related to the level of information search (Laurent and Kapferer 1985, p.41; Rothschild 1975, p.81; Zaichkowsky 1985, p.347). For example, Zaichkowsky (1985) demonstrated that the more involved a consumer is in one product, the more likely that he will compare the brands in that product category (p.347-348). This is because high product involvement carries a motivational state that is aroused by the consumer's perceived personal relevance (or importance) of the product. Thus, the more important a product is to the consumer, the more effort he will put into acquiring the related information (Cardozo 1965, p.246-247).

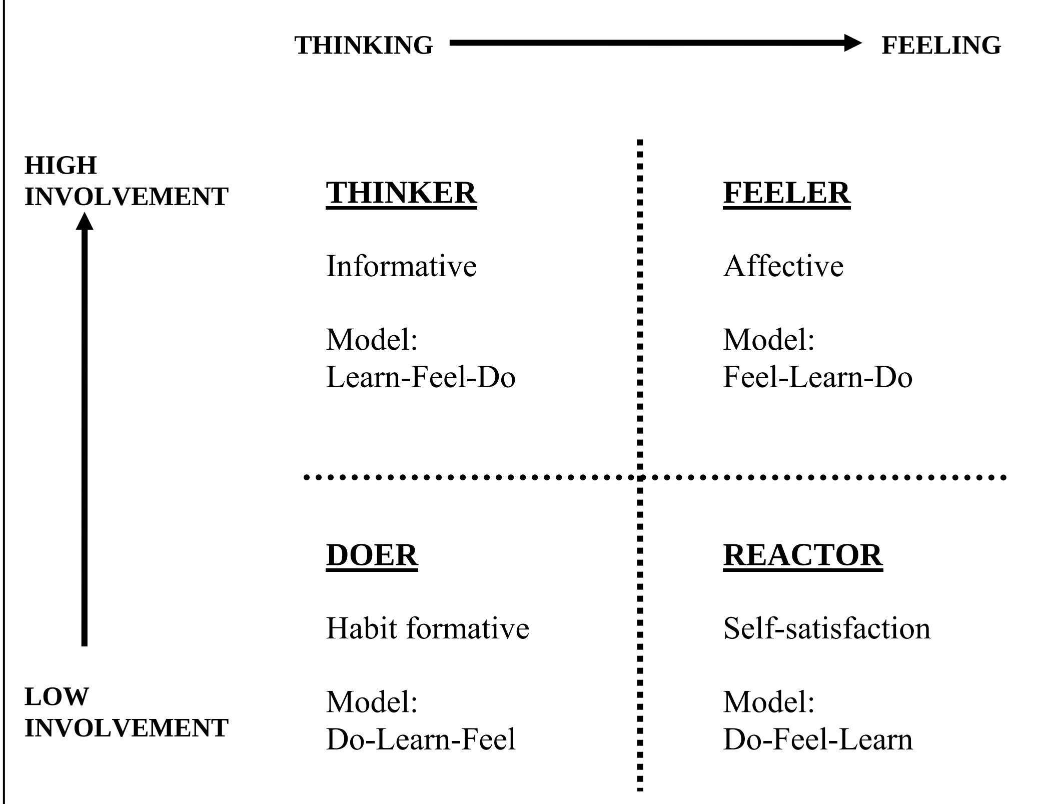
Moreover, the level of involvement is related to how information is processed (Sherif, Sherif, and Nebergall 1965, p.60-61). How information is processed is related to how it is understood (Celsi and Olson 1988, p.221) and, thus, the understanding decides whether an attitude changes accordingly (Freedman 1964, p.294-295). In other words, how strongly persuasion takes place depends on how information is comprehended, which is associated with the level of involvement. According to Petty and Cacioppo (1981a), there are two routes to persuasion, namely, a peripheral route and a central route (p.36). The peripheral route indicates that attitude change is the result of non-content cues in the situation (e.g. the attractiveness of the ad), whereas the central route suggests that issue-relevant information is the most direct determinant of the direction and amount of persuasion produced (e.g. information about product attributes). When involvement is low, the motivation to elaborate information is low; hence, the peripheral route is more effective in changing attitudes. On the other hand, when involvement is high, the motivation to elaborate information is also high; therefore, the central route is more effective to persuasion. This hypothesis has been empirically examined and supported by various researchers

(Holmes and Crocker 1987; Petty and Cacioppo 1979, 1981b; Petty *et al.* 1983). For example, Petty *et al.* (1983) showed that when an advert concerned a product of low involvement, the celebrity status of the product endorsers was a very potent determinant of attitudes about the product. When the advert concerned a product of high involvement, however, the celebrity status of the product endorsers had no effect on attitudes, but the information about the product contained in the ad was a powerful determinant of product evaluations.

Product involvement, entailing differences in information search and processing, is associated with how a consumer behaves in the marketplace. On the basis of product involvement and cognitive-affective orientation, Vaughn (1980; 1986) developed an FCB Grid (Figure 4-1) to understand how and why a consumer behaves as he does in the marketplace. The FCB Grid assumes that cognitive-orientation (thinking) and affective-orientation (feeling) is on a single dimension and combines this dimension with the level of involvement to examine consumer behaviour. 'Thinking' is associated with a utilitarian motive and, consequently, with cognitive information processing while 'feeling' implies ego-gratification, social-acceptance, or sensory-pleasure motives, and attendant affective processing (Ratchford 1987, p.26). This suggests that one would find more objective information in ads for products located in the thinking cells (Weinberger and Spotts 1989). On the other hand, 'feeling' represents an individual's affection, which is self-focused and generates holistic impressions about objects (Mittal 1988, p.502) (Chapter 4.4).

The FCB Grid's four quadrants are informative (thinking – high involvement), affective (feeling – high involvement), habitual (thinking – low involvement), and satisfaction (feeling – low involvement) (Figure 4-1). The grid assumes that consumers in different quadrants exhibit different models of behavioural formation. Behavioural formation is led by a combination of three elements, namely, learn (information search), feel (attitude formation), and do (behaviour) (p.32). The sequence of the elements in the behavioural models depends on where the consumer is located on the quadrants. For example, the Thinker (thinking – high involvement) tends to search information prior to purchase (learn). Attitude formation (feel) takes place after cognitive efforts, and behaviour (do) occurs after information search and attitude formation.

Figure 4-1 A Planning Model for Advertising



Adopted from Vaughn, Richard (1980), "How Advertising Works: A Planning Model," *Journal Advertising Research,* 20 (October), p.31

However, modelling 'thinking' and 'feeling' as opposite anchors of a single dimension is potentially problematic (Putrevu and Lord 1994, p.79). According to Kim's (1991) and Park and Young's (1986) empirical evidence, cognitive and affective involvement are two distinct, independent constructs. Cognitive involvement resembles situational involvement whereas affective involvement resembles enduring involvement. For example, a sports car purchase may elicit high levels of both cognitive and affective involvement (Putrevu and Lord 1994, p.79). Additionally, the involvement dimension, as conceptualised by Vaughn, primarily taps cognitive involvement. This raises empirical concerns with respect to this potential collinearity with the 'thinking' component of the model.

Moreover, Rossiter, Percy, and Donovan (1991) suggested that the thinking-feeling divide only referred to consumers' attitudes towards products (p.12). However, when consumers make a purchase decision, attitudes towards both product and brand will influence the decision. As a result, they advocated the use of the Rossiter-Percy Grid (Rossiter and Percy 1987, p.167) to incorporate products as well as brands. Instead of looking at the functional or symbolic perspectives of a product, Rossiter and Percy considered motivations of a purchase. According to them, there are eight types of motivations, which are classified into informational and transformational motives. The negative motivations (problem removal, problem avoidance, incomplete satisfaction, mixed approach-avoidance, and normal depletion) are categorised as informational motives, whereas the positive motivations (sensory gratification, intellectual stimulation, and social approval) belong to transformational motives (p.169-172). These motives, unlike the thinking-feeling of the FCB grid, can only be studied via qualitative means because motivations can be very subtle (Rossiter *et al.* 1991, p.17). However, when the FCB grid was examined qualitatively, the results showed that the thinking-feeling divide was similar to the informational-transformational split. Claeys, Swinnen, and Abeele (1995) reasoned that “The motivation to buy originates from the meaning the product conveys to the consumer. The product meaning is perhaps best represented at the central knowledge units (p.206).”

Hence, even with these concerns, the FCB grid has been used to distinguish different product classes, especially to capture functional products versus symbolic products (e.g. Aaker 1997; Claeys *et al.* 1995; Warrington and Shim 2000). The FCB grid implies different behaviour. Consistently, Bauer, Sauer, and Becker (2006) found some relationship between involvement and seven decision-making styles, which were perfectionism, innovativeness, brand consciousness, price-value consciousness, loyalty, variety-seeking, and spontaneity. A positive relationship between involvement and brand loyalty and a negative one between involvement and spontaneity and price-value consciousness were demonstrated.

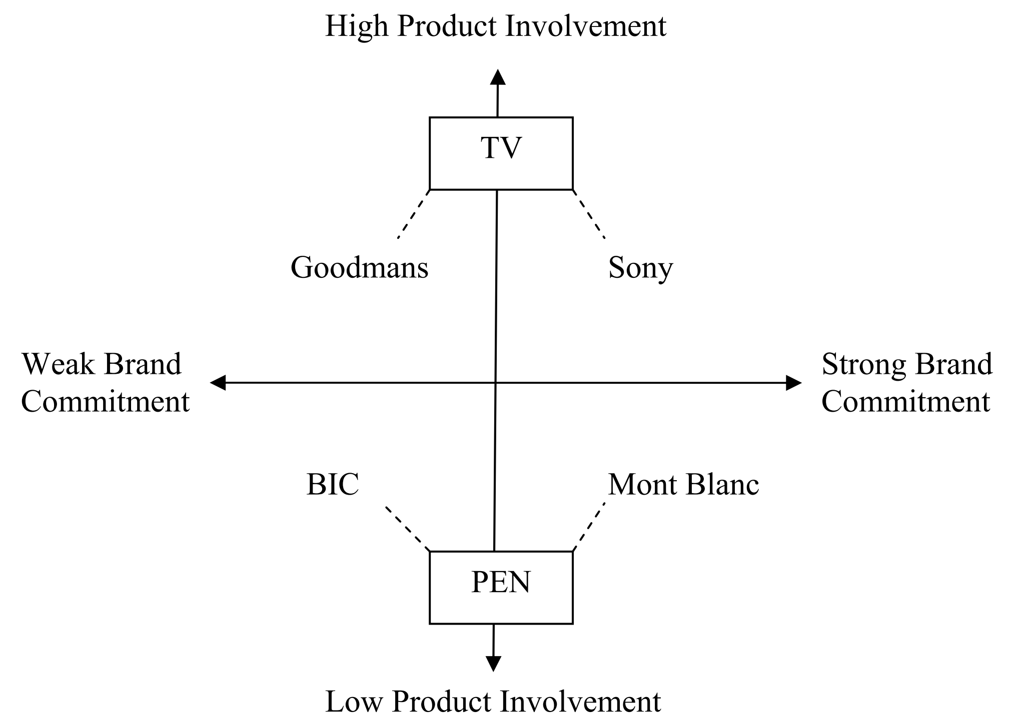
Moreover, involvement has been associated with brand commitment, which is described as an emotional attachment to a brand within a product category (Lastovicka and Gardner 1979, p.68). Involvement results when important values of the person’s self image are engaged or made salient by a decision situation, while commitment results when these values, self images, or important attitudes become cognitively linked to a particular stand or choice alternative (Beatty *et al.* 1988, p.155). The relationship between the two seems positive and obvious.

For example, high-involved consumers perceive greater differences among brands than low-involved consumers, and thus, high-involved consumers tend to have a most preferred brand (Zaichkowsky 1985, p.348). By contrast, in the low involvement situation, little attitude is developed specifically to the brand choice and, in extreme cases, brand choice can be made by awareness alone (Rothschild 1979, p.79). Empirically, Beatty *et al.* (1988), using soft drinks as the product class for the study, supported the positive relationship between product involvement and brand commitment. The model they found showed that enduring involvement is a precursor to purchase involvement, which in turn precedes brand commitment (p.161).

On the other hand, some researchers argued that product involvement can exist without brand commitment and brand commitment can also exist without product involvement (Coulter *et al.* 2003; Cushing and Douglas-Tate 1985; Muncy and Hunt 1984; Traylor 1981; Warrington and Shim 2000). For example, with college students as subjects and using jeans as the product, Warrington and Shim (2000) confirmed the argument. Consistent with the information process research, they found that the respondents in different quadrants (Figure 4-2) used different sources of information and had different perceptions of the importance level for the product attributes, such as image and utility (p.776). For example, the respondents in the quadrant of high product involvement and strong brand commitment had the highest scores on both marketing and personal sources and they perceived both utilitarian and image attributes to be more important than the respondents in other quadrants did. By contrast, the respondents in the quadrant of low product involvement and weak brand commitment had the lowest scores on personal sources and they tended to perceive both product attributes to be less important than the respondents in other quadrants did.

Moreover, different levels of product involvement and brand commitment resulted in different levels of sensitivity to price and brand.

Figure 4-2 Product involvement – brand commitment classification



Adopted from Warrington, Patti and Soyeon Shim (2000), "An Empirical Investigation of the Relationship between Product Involvement and Brand Commitment," *Psychology & Marketing*, 17 (9), p.774

In summary, involvement has been studied in relation to advertisements, information search, persuasion, and brand attitudes. It has been found to be critical to consumer behaviour. Following the thread of involvement discussion in social psychology, consumer researchers have viewed product involvement as a long-term interest in a product which is based on the centrality of a consumer's important values, needs, or self-concept (Bloch 1981; Day 1970; DeBruicker 1979; Houston and Rothschild 1978; Tyebjee 1979a). The consumer's important values, needs, or self-concept are translated into product involvement on the basis of his perceptions of product meaning, which is characterised by the intangible symbolic connotations attributed to the product category (Bloch and Richins 1983, p.74). Product meaning derives from the set of activities and uses that are associated with the product (Kernan and Sommers 1968, p.389) or from the product's social symbolism (Belk 1980, p.369; Holman 1980, p.375). Consumers are likely to attach enduring importance to those products that are highly valued parts of their lifestyles and help to project a positive image for others to view (Bloch and Richins 1983, p.74; Coulter *et al.* 2003, p.162). Thus, products serving to define or enhance the self-concept will tend to be perceived as important (Dolich 1969, p.84; Grubb and Grathwohl 1967, p.25), that is, a consumer may be highly involved with a product class which is able to define or enhance his self-concept. Though the importance of involvement with regard to the construction of self-identity has been recognised, no empirical data has been presented to affirm the relationship. The discussion of the relationship between involvement and self-concept remains on a conceptual level. The influence of involvement in defining self-identity is unclear.

4.4 Feeling

Feeling has sometimes been used interchangeably with affect, mood, and emotion (Zambardino and Goodfellow 2007, p.28). However, differences exist among them. Cohen and Areni (1991) suggested affect as "*a valenced feeling state* (p.190)," and that it may be a general term to include the state of mood and emotion (p.191). Mood is a subcategory of feeling states perceived by individuals (Gardner 1985, p.282). It changes when there is slight change in the physical surroundings; for example, a sales assistant's smile at the point of purchase or different music played in the stores. Thus, the feeling states of mood are general (i.e. not necessarily directed towards any specific objects) (Fiske 1981, p.231), transient (i.e. specific to each occasion) (Peterson and Sauber 1983, p.410) and sometimes without conscious awareness (Cohen and Areni 1991, p.191). On the other hand, emotion, drawn by specific stimuli (e.g. event or object), is usually intense and attention-getting (Clark and Isen 1982). On the basis of Plutchik's (1980) and Izard's (1977) work, Richin (1997) and Hansen (2005) concluded emotions as "very primitive, extremely fast, unconscious mechanisms controlling the individual responses to a wide variety of situations (Hansen 2005, p.1426)."

However, feeling does not describe 'state,' but it can yield emotions or change mood. Zajonc (1980) used feeling to contrast the rational, cognitive process of thinking; feeling refers to an evaluative judgement and can be just liking-and-disliking (p.151). This evaluative judgement drawn by feeling is socially determined since "The vast majority of our daily conversations entail the exchange of information about our opinions, preferences, and evaluations (Zajonc 1980, p.153)." Therefore, feeling is aroused when consumers recognise a sense of relevance to their perceived reality, which may minimise negative emotional load or maximise emotional gain (Elliott 1998, p.97-98). This relevance is associated with the self (Zajonc 1980, p.157). Mittal (1988) clearly explained it by stating that

> "Affective [or evaluative] judgements describe not so much what is in the object, but something that is in ourselves. 'This cat is black', is a cognitive judgement. 'I like this cat', is an affective judgement. The latter are always about the self.

> They identify the state of the judge in relation to the object of judgement (p.502)."

The emotional load and gain may refer to social rejection and acceptance, which attribute an evaluative judgement to the attitudes residing in the social surroundings (Rokeach 1968, p.551). Thus, feeling is related to involvement through the lenses of attitudes and, therefore, self-identity (Chapter 4.3.1, p.90-92).

However, the relevance to the consumers' perceived reality and the results of the evaluative judgement can be difficult to explain since they cannot be traced back to specific attributes (Zajonc 1980, p.159). Mittal (1988) termed this explanation difficulty as a "holistic processing (p.504):"

> "… some evaluative aspects of the object or brand … do not align with its discreet, intrinsic attributes. Style of a car, dress, or furniture, appearance of a building's façade, or the ambiance resulting from the use of a perfume are examples of these holistic aspects of products (p.503-504)."

The holistic processing may be a result of the inability of human beings to verbalise the reasons for their feelings (Elliott 1998, p.102). This argument is in line with Radley's (1988) claim that "With the articulation of our feelings through words we acquire a distance from them, so it is possible to act with respect to our emotions rather than expressing them directly (p.11)."

Since feeling is used to contrast thinking, it is often used to distinguish utilitarian-oriented products from expressive-oriented products (Mittal 1988, p.505). According to Mittal (1988), the expressive-oriented products "concern people's consumption goals in their psycho-social worlds. Subdomains of psycho-social goals include sensory enjoyment, mood-states attainment, social goals, and self-concept fulfilment (p.505)." This is in line with McGuire's (1974) "ego gratification (p.189)." Ego gratification refers to an individual's need to defend, enhance, and express one's self. For example, the individual may express himself by the way he dresses or the style of car he drives. Thus, sensory enjoyment, social acceptance, and self-concept fulfilment belong to various degrees of ego gratification (Ratchford 1987, p.26). This thread of argument for feeling discusses how self-identity is composed via the usage of expressive-oriented products. Although research has shown that consumers' decision-making partly relied on the notion of "how-do-I-feel-about-it (Pham 1998, p.156)," the role of feeling in consumer research is merely used to distinguish utilitarian products from symbolic ones (e.g. Aaker 1997). Whether or not the 'feeling' products contribute to the construction of self-identity has been treated as a presumption without empirical evidence.

4.5 Brand meaning

According to David Ogilvy, "a brand is the consumer's idea of a product." Brand meaning is a psychological meaning (Hirschman 1980, p.8). Szalay and Deese (1978) indicated that "Psychological meaning describes a person's subjective perception and affective reactions … Psychological meaning is suffused with affectivity (p.2)." However, Osgood, Suci, Tannenbaum (1957) argued that meaning was a bundle of components, which represented the main constituents of the individual's understanding and evaluation of concept (p.2-5). It may represent experiences, images, information, and feelings, which have been accumulated over time (Szalay and Deese 1978, p.18-20). Thus, brand meaning can be related to self-identity. To directly relate to self-identity, two specific brand meanings – brand personality and brand relationship – are discussed.

4.5.1 Brand personality

Brand personality is used to describe brands as if they were human beings and is a term coined by practitioners who investigate consumers' perceptions towards the brands (Azoulay and Kapferer 2003, p.144). The consumer researchers started to use brand personality as early as in 1958 when Martineau referred to personality in the discussion of a retail store's symbolic dimension. About the same time, Wells *et al.* (1957) were the first consumer researchers to compose an adjective check list associated with products. On the basis of the usage among marketing practitioners and researchers, Aaker (1997) defined brand personality as a "set of human characteristics associated with a brand (p.347)."

This definition facilitated Aaker's development of a brand personality scale. She generated an initial item pool of 309 candidate adjectives by combining the existing Big Five personality inventories, the personality scales used by consumer researchers, and consumers' opinions from free-association tasks between brands and related human characteristics. The 309 items were reduced to 114 based on consumers' ratings regarding how descriptive the adjectives were in relation to brands. The 114 items were then put forward for consumer rating. Aaker included 37 brands for consumer rating and these brands were selected on the basis of two criteria. The first criterion was the inclusion of a variety of product categories. This criterion was to enable the scale to be applicable to various products. In order to meet this criterion, the FCB grid (Ratchford 1987) was used to ensure that both symbolic and utilitarian products were included. The second criterion was that the brands had to be well-known and salient so that the consumers were able to comment on the brands.

The factor analysis result retained forty-two adjectives and revealed a five-dimension structure, namely, sincerity, excitement, competence, sophistication, and ruggedness. Aaker claimed that the dimensions of sincerity, excitement, and competence closely resembled the agreeableness, extraversion, and conscientiousness dimensions of the Big Five of human personality, but the structure of brand personality was somewhat different from that of human personality. Even so, the brand personality scale has encouraged much research investigating different issues and applications of brand personality, such as cultural issues, impression formation, and brand personality effects.

Cultural issues of brand personality have been studied by Aaker, Benet-Martinez, and Garolera (2001) and Sung and Tinkham (2005). By using the same method, they replicated the scale development of Aaker's (1997) brand personality to other countries. However, they discovered that not all the five factors found by Aaker (1997) could be carried over to other countries.

Aaker and colleagues (Aaker *et al.* 2001) investigated the U.S., Japan, and Spain. Though the number of dimensions of brand personality extracted from the factor analysis was five in all three countries, some of the dimensions did not carry over to a different country. The three dimensions shared by these three countries were excitement, sincerity, and sophistication. Other dimensions (i.e. peacefulness, competence, and passion) were country-specific. Similarly, Sung and Tinkham (2005) found that brand personality in the countries (U.S. and Korea) they surveyed included both common dimensions and cultural-specific dimensions.

Therefore, although brands may reflect universally held individual needs (Aaker *et al.* 2001, p.506), the individuals were influenced by culture to form their preferences of the values conveyed by brands in their different ways (p.503). For example, individualist subjects tended to use their preferred personality to project brand personality of their preferred brands; this was less true of their collectivist counterparts (Phau and Lau 2001, p.438). That is to say, the interpretation of the brand meaning must take into consideration the particular cultural lens through which the brand is being seen (Aaker *et al.* 2001, p.506).

In addition to cultural issues, the causes and effects of brand personality have been widely studied. The causes refer to the antecedents of brand personality, that is, impression formation; the effects refer to the consequences of brand personality, including ad attitudes, brand preferences, and self-identity. According to Plummer (1985), brand personality formation has two sources, namely, direct and indirect contact with the brand. The direct influence comes from endorsers (McCracken 1989, p.314-318) or user imagery (Aaker 1997, p.348). On the other hand, indirect contact refers to the inference that a consumer may make through associations of product attributes, product category, brand name, symbol, logo, advertising style, price, and distribution channel (Batra, Lehmann, and Singh 1993, p.93).

Empirical evidence provides some support for brand personality formation. The formation of brand personality was found to be dependent on how the brand adverts communicate with the consumers. Ang and Lim (2006) found that brands using literal or pictorial metaphors in ads were perceived to be more sophisticated and exciting, but less sincere and competent than non-metaphoric adverts (p.49).

However, the impression formation process can be different from person to person (Johar, Sengupta, and Aaker 2005). There are two routes to the formation or update of brand personality, namely, evaluative and trait inferencing routes. In Johar *et al.*'s (2005) experiments, individuals who tended to use a specific trait to describe themselves, followed a trait inferencing mechanism to form and update their perception and impression of brands (p.468). That is, they used the information related to the trait that they used on themselves on the brands. On the other hand, those who did not rely on the trait to describe themselves tended to use evaluative information to form and update their brand perception.

The reason that brand personality is important to building a strong brand lies in the symbolic, emotional aspect which is able to distinguish and differentiate a brand from the competition crowd (Freling and Forbes 2005a, p.405). Moreover, brand personality brings an originally-without-a-soul object into life. Research has shown that, by doing this, brand personality provides consumers with emotional fulfilment, thereby increasing purchase possibility (Freling and Forbes 2005b, p.155). The usefulness of brand personality is conclusive; as long as the brand personality is perceived to be strong and favourable, the consequences, such as brand associations and evaluation, are positive (Freling and Forbes 2005a, p.408-409). On the other hand, it is less certain what type of brand personality is considered favourable. For example, Ang and Lim (2006) found that, even though brand personality is perceived to be less sincere and competent when conveyed by a metaphoric advert, ad attitudes, brand attitudes, and purchase intentions in response to the metaphoric advert were rated higher than the non-metaphoric type. Whether it is the higher ratings of the excitement and sophistication dimensions of brand personality, or the emotional message delivered by the metaphoric adverts, that lead to favourable attitudes and increased purchase intentions is unknown.

Moreover, some researchers speculated about the possibility of a relationship between self personality and their favourable brand personality on the basis of the self-congruity literature (Grubb and Grathwohl 1967; Landon 1974; Malhotra 1988; Sirgy 1982; Sirgy *et al.* 1991; Wright and Sirgy 1992). Krohmer, Lucia, and Bettina (2006) found that consumers tended to choose the brands with their preferred personality. The evidence they presented showed that the congruence between their ideal self and brand personality led to brand loyalty and trust. Similarly, Helgeson and Supphellen (2004) found that self-congruity had a positive effect on brand attitude. That is to say, a brand personality close to the consumer's self personality has a positive influence over brand attitude (p.225). Because of these findings, some researchers conceptualise a bi-directional influence of brand personality (Phau and Lau 2001). The impression of brand personality is formed on the basis of a consumer's preference among brands as well as the preference of personality.

Therefore, it is possible that favourable brand personality is developed after a consumer forms the preference towards the brand. In the context of Tiger Beer, Phau and Lau (2001) found that for consumers who preferred Tiger Beer brand, their preferred personality dimensions were positively related to the perceived brand personality dimensions whereas for respondents who did not have any preference for a particular brand, the influence was minimal (p.437). In line with this finding, Fennis and Pruyn (2007) discovered that, with a strong, favourable brand, brand personality can be carried over to the user's personality only when the user behaves in a consistent manner, in the eyes of an external observer (p.637).

Like human personality, brand personality remains quite stable over time even when marketing activities change (Wee 2004, p.325). Diamantopoulos, Smith, and Grime (2005) and Fennis and Pruyn (2007) found the same results in different contexts. Diamantopoulos *et al.* (2005) studied the effects of brand personality on a brand extension situation. They found that brand personality remained stable after an introduction of brand extension, even when the level of fit was low (p.140). Fennis and Pruyn (2007) suggested a similar effect in the fashion context they studied. They discovered that a favourable, strong brand personality is resistant to change even when a conflicting user image is presented (p.637).

However, unlike human personality (Schmitt *et al.* 2007), brand personality may not have a distinct five-factor structure. Aaker and colleagues (Aaker 1997; Aaker *et al.* 2001; d'Astous and Lévesque 2003) claimed that, across the U.S., Canada, Japan, and Spain and also across product categories, brand personality structure mirrors the structure of human personality, the Big Five. However, their claim only focused on the number of factors extracted from the factor analysis. The content of the factors did not resemble the Big Five. Moreover, the five-factor model brand personality developed by Aaker (1997) could not be replicated to other countries (see p.106-107). While these researchers found the number of factors of a brand personality scale to be five, other scholars (Caprara *et al.* 2001; Sung and Tinkham 2005; Venable *et al.* 2005) made a different discovery.

When Venable *et al.* (2005) investigated donors' perceptions of brand personality in a study using non-profit organisations, the structure they discovered was not the same as the Big Five. Instead, they found a four-factor framework. When Sung and Tinkham (2005) studied Korea and the U.S., they found a six-factor structure of brand personality. Coincidently, d'Astous and Boujbel (2007) found a six-factor structure when they examined the personality structure of several countries, including Australia, Canada, China, France, Mexico, Morocco, and Israel. These countries were used in place of brands to represent country branding. Similarly, Caprara *et al.*'s (2001) results did not conform to the five-factor structure in their Italian respondents' perception of brand personality. They found a two-factor structure, which resembled Digman's (1997) results for human personality. These mixed results led to Austin, Siguaw, and Mattila's (2003) concern about the generalizability of Aaker's brand personality scale.

However, the fundamental problem of Aaker's brand personality scale lies in her conceptualisation (Austin *et al.* 2003, p.78; Azoulay and Kapferer 2003, p.146). Aaker (1997) defined brand personality as a "set of human characteristics associated with a brand (p.347)." This definition of brand personality does not reflect the concept of personality in the psychology literature (Azoulay and Kapferer 2003, p.146) (see the discussion of personality in Chapter 2). Although this definition has managerial sense (Plummer 2000, p.81) and is easy to understand, it is intuitive. The psychologists would not agree that human characteristics equate to personality.

However, Aaker (1995) argued that the term ‘personality’ was differently generated between brands (consumer behaviour) and people (psychology). It is true that a brand’s nature is inanimate and the formation of brand personality is largely dependent on product attributes, benefits, price, channel, advertising, etc., which human beings usually do not possess. But, by applying Park’s (1986) concept, she mis-referred personality to the impression formation of people (Aaker 1997, p.348). Although she attempted to personify a brand, her brand personality ends up being a personified brand image (Lau and Phau 2007, p.435), not brand personality. With a broad definition of brand personality, many items of Aaker’s scale, such as ‘good looking,’ became problematic. The lack of a theoretical foundation of personality in the concept of brand personality, combined with this misrepresentation of the pool of items resulted in some researchers questioning whether Aaker’s brand personality scale is fit to measure brand personality (Azoulay and Kapferer 2003).

A more rigorous definition of brand personality was proposed by Allen and Olson (1995). They defined brand personality as “the specific set of meanings which describe the “inner” characteristics of a brand. These meanings are constructed by a consumer on the basis of behaviour exhibited by personified brands or brand characters (p.393).” Allen and Olson indicated that consumers assign personality characteristics to brands via inferences based on observations of ‘brand behaviour,’ and brand behaviour is attached to what happens in everyday situations. Therefore, brand personality is mirrored human personality (Azoulay and Kapferer 2003, p.151). This conceptualisation is consistent with Freling and Forbes’s (2005b) argument that brand personality is rooted in consumers’ perceptions as well as experiences (p.158).

Therefore, the current study applies the same definition for human personality (Chapter 2.6, p.42) to brand personality, that is:

> Personality is an individual's perception of his configuration of cognition, emotion, and motivation, which activates behaviour and reflects how he adjusts to the environment by incorporating his life experience

Moreover, self-report personality is the individual's perception and experience of his self-identity in the psychological form of personality. Likewise, brand personality is a consumer's perception and experience of the brand identity (Plummer 2000, p.80) in the psychological form of personality. To summarise the arguments of brand personality by Allen and Olson (1995), Azoulay and Kapfrer (2003), Freling and Forbes (2005b), and Plummer (2000), brand personality is defined as

> an individual's perception (imagination) of the personality a particular brand possesses. Brand personality describes the inner characteristics (i.e. the configuration of cognition, emotion, and motivation), which are conveyed through the individual's experience with the brand and the brand identity.

Based on this definition focusing on the 'inner' characteristics of a brand, Milas and Mlačić (2007) found their brand personality scale resembled the expected Big Five model (p.625). Unlike other brand personality studies, Milas and Mlačić (2007) investigated the differences in the brand personality structures of between-brand, within-brand, and the integration between brands and subjects (brand x subject).

Between-brand structure is determined by the aggregated data from the responses averaged across the subjects (which is Aaker's (1997, p.350) focus in determining her brand personality structure), while within-brand structure is extracted by the data at individual level with regard to the same brand. On the other hand, the integration between brands and subjects treats each response of each brand individually. With 267 samples to rate four of the ten pre-selected brands using ninety Croatian personality adjective terms (Hofstee, de Raad, and Goldberg 1992; Mlačić and Ostendorf 2005), the results suggested that the personality structure of the integration between subject and brand resembled more closely the Big-Five model than the between-brand and within-brand structures.

However, Aaker (1997) argued that brand personality was determined by the differences among brands, rather than among individuals (p.350), suggesting that a between-brand structure was appropriate. Although Milas and Mlačić (2007) made a contribution by discovering the differences existing in various brand personality structures, they recognised the uncertainty as to which brand personality structure (between-brand, within-brand, or brand x subject) can best capture the concept of brand personality (p.625). The structures of between-brand, within-brand, and brand x subject serve different purposes just as the personality structures of between-individual and within-individual have different emphasises in the studies (Cervone 2005). A between-brand structure possesses a valuable managerial implication because the brand companies are able to locate their brands in relation to their competitors'. On the other hand, a within-brand structure can facilitate the brand companies' understanding of their brands and may be able to compare the structures of brand users and non-users. However, the current study attempts to investigate whether or not consumers use their brands to reflect their self-identities by relating their own personalities to the brand personalities of their brands. An integration between brands and individuals (brand x subject) is deemed appropriate for this purpose because each individual may see the same brand differently and because each individual may have a different preference for a brand in the same product category.

4.5.2 Brand relationship

Brand relationship refers to the person-brand relationship (Shimp and Madden 1988, p.163). Like brand personality, it is a metaphor of brand-as-a-person (Fournier 1994, p.14). Brand relationship characterises the relationship between a person and a brand as an interpersonal relationship and is considered a logical extension of brand personality (Blackston 1992, p.80). However, unlike brand personality, it explicitly considers a two-way communication between the person and brand (Fournier 1994, p.21).

Shimp and Madden (1988) were the first consumer researchers to propose a relationship between consumers and their consumption, and they termed it 'consumer-object relations (p.163).' By using Sternberg's (1986) triangular theory of love, which contains the concepts of intimacy (p.120), passion (p.122), and decision/commitment (p.123), they identified three parallel dimensions for brand relationship. That is, liking, yearning, and commitment. These three dimensions are corresponded with three psychological processes, namely, emotion, motivation, and cognition. Liking, the emotional element, refers to the feelings of closeness and connectedness with consumption objects; yearning, the motivational element, indicates the strongest desire for something; decision, the cognitive element, represents the recognition of 'love,' suggesting short-term decision to purchase, or long-term decision to commit. By combining the presence and absence of these three elements, Shimp and Madden proposed eight types of consumer-object relations (see Table 4-1).

Table 4-1 Shimp and Madden's (1988) consumer-object relation types

	Components of relationship		
	Liking	Yearning	Decision (to purchase or to commit)
1. Nonliking	-	-	-
2. Liking	+	-	-
3. Infatuation	-	+	-
4. Functionalism	-	-	+
5. Inhibited desire	+	+	-
6. Utilitarianism	+	-	+
7. Succumbed desire	-	+	+
8. Loyalty	+	+	+

'+' represents the presence and '–' represents the absence
This table is adapted from Shimp, Terence A. and Thomas Madden (1988), "Consumer-Object Relations: A Conceptual Framework Based Analogously on Sternberg's Triangular Theory of Love," in *Advances in Consumer Research*, ed. Michael J. Houston, Provo, UT: Association for Consumer Research, p.165.

Although Shimp and Madden's proposal of consumer-object relations was insightful, it remained at the stage of conceptualisation without empirical evidence. Moreover, their conceptualisation had two main problems. First, the decision to purchase or to commit may be difficult to operationalise as one dimension. At the conceptual level, while the decision to purchase may belong to the cognitive process, the decision to commit may be more inclined to yearning, the motivational aspect of the relationship. Secondly, they ignored the fact that the quality of relationship is a continuum (Collins and Allard 2001, p.62). The relation types they presented were categorised on the basis of the presence or absence of the three components. However, there is more to a relationship than whether or not it exists.

To evaluate the strength of a brand relationship, Fajer and Schouten (1995) suggested that there are three criteria that can be used, namely, the importance of satisfying the liking criteria, the substitutability of the relationship partner, and the pleasure-cost ratio of the relationship (p.663). Based on these criteria, they developed a typology that mirrored brand relationship with friendship (Figure 4-3).

Figure 4-3 Fajer and Schouten's (1995) brand relationship typology

	Low-order relationship	→	→	→	High-order relationships
Friendship	Potential friends	Casual friends	Close friends	Best friends	Crucial friends
Brand relationship	Brand trying	Brand liking	Multi-brand resurgent loyalty	Brand loyalty	Brand addiction

However, friendship is only one of the relationship forms. Other forms of relationships include colleague relationship, romantic relationship, parental relationship, marital relationship, and so on. Researchers have argued that relationship quality rests on the characteristics of being in a relationship, rather than on the particular relationship forms (Wish, Deutsch, and Kaplan 1976, p.409). Thus, the discussion of the fundamental components is crucial, especially for brand relationship (Fournier 1994, p.29).

Several attempts have been made to conceptualise brand relationship since Shimp and Madden's (1988) efforts. For example, Aggarwal (2004), using Clark and Mills's (1993) theory of interpersonal relationship, viewed brand relationship as based on either social factors or economic factors (p.88). If a relationship is based on social factors, it is called communal relationship. In a communal relationship, the relationship partners focus on the social needs, such as loving and caring. To the contrary, in an exchange relationship, which is based on economic factors, relationship partners focus on the economic exchange; that is, one party giving a benefit to the other party, expecting to get something back in return. On the other hand, Nysveen *et al*. (2005) borrowed Thibaut and Kelley's (1959, p.97-99 and p.124-125) interdependency model and Rusbult's (1980) investment model. From the interdependency model, Nysveen *et al.* (2005) included brand satisfaction and quality of alternatives to evaluate brand relationship. From the investment model, they used direct and indirect relationship investment. Direct investment included time, money, and other efforts to be devoted to the brand while indirect investment included convenient resources, such as an unplanned conversation with a friend about the brand.

However, researchers who have applied interpersonal relationship theories to brand relationship have been highly selective. For example, theories of love (Carroll and Ahuvia 2006; Shimp and Madden 1988), commitment (Thomson, MacInnis, and Park 2005; Traylor 1981), trust (Hess and Story 2005), and self-brand connection (Escalas and Bettman 2003) excluded other important relationship constructs. On the other hand, Fournier's (1994; 1998) development of brand relationship quality has been characterised as a "modern classic (Bengtsson 2003, p.154)."

To Fournier (1998), brand relationship describes the ties between a brand and a consumer and the ties mirror an interpersonal relationship. From her qualitative research into three women at different life stages, she formulated six dimensions of brand relationship quality, called 'love and passion', self-connection, interdependence, commitment, intimacy, and brand partner quality (p.363-366). Love and passion is at the core of all strong relationships. For brand relationship, it contains rich affective grounding, which supports brand relationship endurance and depth. The connotation of love and passion is much greater than that implied in brand preference or brand loyalty. The second dimension, self-connection, reflects the degree to which the brand is able to express a significant aspect of self. It is concerned with identity through life tasks or themes. Interdependence, on the other hand, involves frequent brand usage (interaction). It reflects the degree to which the brand is irreplaceable. Commitment entails a concept of investment. It describes consumers' dedication and persistence towards the brand. The fifth dimension, intimacy, indicates consumers' subjective knowledge of the brand through their brand stories. The subjective knowledge is elaborated and developed through layers of meanings, which reflect the levels of intimacy. Finally, brand partner quality encompasses the idea of satisfaction. It reflects the consumer's evaluation of the brand's performance in its partnership role. These six dimensions of brand relationship quality imitate the evaluation of an interpersonal relationship. Moreover, the concept of brand relationship obtained both qualitative and quantitative support (Fournier 1994, 1998; Fournier and Yao 1997; Ji 2002; Park, Kim, and Kim 2002). Because of the rich information derived from the concept of brand relationship, the attention to brand loyalty has shifted to brand relationship (Fournier and Yao 1997, p.467).

However, for an interpersonal relationship to truly exist, interdependence between partners must be evident. The partners must collectively affect, define, and redefine the relationship (Hinde 1979, p.14-15). This definition of the interpersonal relationship has been used to criticise the concept of brand relationship (Bengtsson 2003; O'Malley and Tynan 1999). O'Malley and Tynan (1999) argued that, although brand relationship was a metaphor, it was necessary to consider whether the transfer of the metaphor was conceptually logical and operationally feasible (p.592-593). Bengtsson (2003) supported O'Malley and Tynan with his empirical data. He found that his interviewees had difficulty in describing a relationship between the brands and themselves. The difficulty lay in the absence of a critical element of the interpersonal relationship; that is, reciprocity (p.155). Therefore, he called four of Fournier's brand relationship dimensions into question. These four dimensions were love and passion, commitment, interdependence, and intimacy. However, Fournier (1998) argued that consumers were capable of seeking and maintaining brand relationship that added meanings to their lives (p.345). These meanings are constructed via marketing communication from the brand company, market informal communication (such as conversation with friends), and life stories containing the experience with the brand. If a consumer finds it difficult to apply the meanings of interpersonal relationship to a brand context, like Bengtsson's participants, it may be because the brand does not represent a significant role in the consumer's life; hence, the brand relationship quality is weak.

Empirical research has supported the notion of brand relationship. Research showed that not only adults possessed brand relationship. Children, from the age of five, also started to learn brands and to articulate brand meanings (Ji 2002; Robinson and Kates 2005). Similar to those of adult's brand relationship (Fournier 1998), the sources of the children's brand relationship were embedded in life stories. Moreover, research has shown that brand relationship had potential managerial applications. For example, a strong brand relationship can help consumers to accept brand extension and atypical benefit claims (Park *et al.* 2002, p.196), as well as to deal with negative information favourably (Swaminathan, Page, and Gürhan-Canli 2007, p.256-257). Although brand relationship is never the same as the interpersonal relationship, this evidence suggested that, to a certain degree, brand relationship can be simulated to interpersonal relationship, and the concept of brand relationship can also help understand how consumers interpret the brand meanings.

However, because the concept of brand relationship is relatively new, investigations into brand relationship are rather limited. Brand relationship has been linked to life stories by several qualitative studies looking at the development of brand relationship (Fournier 1998; Fournier and Yao 1997; Ji 2002; Robinson and Kates 2005), but its quantitative studies, so far, have been restricted to information processing (Park *et al.* 2002; Swaminathan *et al.* 2007). Although some studies attempted to link brand personality to brand relationship (Chang and Chieng 2006; Hayes *et al.* 2006; Smit, Bronner, and Tolboom 2007), they suffered a common drawback; that is, a lack of theoretical ground.

4.6 Summary

After reviewing the literature of consumer behaviour in relation to the construction of self-identity, four main gaps in the literature have been identified. First of all, the construction of self-identity has not yet been quantitatively and properly studied. Although some qualitative studies have investigated this area (Holt 2002; Thompson and Haytko 1997; Thompson and Hirschman 1995b), they remain at the exploratory stage. One may argue that the early self-congruence studies were all quantitative work; however, the basis of this work was rather ‘convenient’. It was convenient in the sense that the measurements applied were not rigorous.

The second gap lies in the role of involvement and feeling in the construction of self-identity. Although involvement has been applied heavily in consumer research, the link between involvement and self-identity has not been empirically investigated. The discussion about the relationship between involvement and self-concept remains on a conceptual level. Moreover, the discussion has mainly focused on involvement alone, without considering the effect of feeling. The position of involvement and feeling in defining self-identity stays unclear.

The conceptual and measurement problems of brand personality account for the third gap in the literature. Brand personality is a useful concept to enrich the literature of self-identity in consumer research. However, current efforts tend to divert brand personality from personality psychology. Although many brand personality scales have been established, it is difficult to distinguish brand personality from a personified brand image. Thus, if brand personality accounts for the ‘personality’ in psychology, the combination between brand personality and consumer personality can contribute to the self-identity theories.

The final gap emerges from brand relationship. Brand relationship is a relatively new concept in consumer research. While some studies (Bengtsson 2003; O'Malley and Tynan 1999) have argued against the transformation of an interpersonal relationship into a brand relationship, others started to apply the concept (Park *et al.* 2002; Swaminathan *et al.* 2007). More evidence is needed from different perspectives of brand relationship to verify the brand relationship metaphor. If brand relationship mirrors an interpersonal relationship, then the integration between brand relationship and self-brand congruence can further support the brand relationship metaphor and contribute to the understanding of self-identity in the literature of consumer research.

These four gaps surround the central question: whether or not consumers use their consumption to construct their self-identities? Involvement and feeling will be taken into consideration to examine how strongly they influence the construction of self-identity. Moreover, the self-identity and interpersonal relationship theories will be the theoretical ground to establish the relationship between consumer personality, brand personality, and brand relationship. The four gaps will then be blended into the conceptual framework in the next chapter.

Chapter 5. Conceptual Framework

5.1 Introduction

Following the review of relevant literature in previous chapters, this chapter organises the gaps identified in the literature into hypotheses for testing.

The first gap is in the relationship between consumer personality and brand image through application of self-identity theories. Although past research in this area was abundant, it was based on problematic measures (Chapter 4.2.2) and produced mixed results (Chapter 3.4). Thus, if the measurement problems of the past research can be removed by the current study, a stronger and clearer relationship between consumer and brand will then be expected.

One of the measurement problems lies in the measurement of self-identity. The previous chapter (Chapter 4.2.1) indicates that self-identity can be best captured by personality. The other problem comes from measuring brand image. To associate consumer personality and brand image, the analogous concept – brand personality – needs to be re-visited. Thus, the second gap is in the conceptualisation of brand personality. To follow the rigorous definition (Chapter 4.4.1), a repositioning of brand personality is required and an examination of whether brand personality parallels consumer personality is needed to support the definition. The parallel concepts of consumer personality and brand personality may help advance the understanding of the relationship between self-identity and consumption (which is the first gap).

The third gap occurs in the relationship between consumer-brand congruence and brand relationship. The concept of brand relationship is fairly new, and most studies are still at a qualitative stage. However, some studies argued that the brand relationship metaphor did not work (Bengtsson 2003; O'Malley and Tynan 1999). The hypothesis of the relationship between consumer-brand congruence and brand relationship aims to verify whether the metaphor indeed does not work or it does not work for 'certain' research participants. By applying the interpersonal relationship theories, the relationship between consumer-brand congruence and brand relationship will be proposed.

The final gap lies in the effects of involvement and feeling. Although both involvement and feeling have been related to self-identity in consumption contexts, this relation with self-identity has been treated as a premise. Empirical evidence is needed to examine such premises. Thus, the way in which a combination of involvement and feeling influences the association between consumer personality and brand personality, consumer-brand congruence, and brand relationship will be investigated.

This chapter will start with repositioning brand personality. After brand personality is repositioned and the measurement issues are clarified, consumer personality and brand personality will be correlated. A consumer-brand congruence model will also be established to examine brand relationship. Involvement and feeling will be included to examine their effects on the relationship between self-identity and consumption.

5.2 Consumer personality and brand personality

5.2.1 Repositioning brand personality

The root of brand personality originates from human personality. Before the concept of brand personality can be repositioned, the concept of human personality must be clarified.

The study of human personality has a long history and it can be traced back to Freud's psychoanalysis (Chapter 2.2) or James's concept of self (Chapter 4.2.1). It can be argued that the personality studies focus on the understanding of an individual. Originally, it was only applied to studying mentally unhealthy patients. Long hours of observations and interviews were required. However, after Allport (1937) maintained the differences between mentally unhealthy patients and generally normal people and after various trait theorists pioneered measurement of personality (Chapter 2.5.2-2.5.3), the application of personality became widely accepted across different disciplines, such as occupation, education, and marketing.

Compared with various definitions of human personality existing in the literature of psychology, the definition in marketing is considered nonexistent. Most researchers did not explicitly explain what personality is (or, at least, what personality is to *marketing*). Personality seems to have been a convenient term for the consumer researchers to use when they wanted to describe individual differences. However, Engel, Kollat, and Blackwell's (1969) and Kassarjian and colleague's (Kassarjian 1971; Kassarjian and Sheffet 1981, 1991) reviews were exceptions. Coincidently, they argued individuals' consistent behaviour as personality. This definition may have been generated to be in line with what other researchers believed, since early researchers endeavoured to find a 'consistent' consumer behavioural pattern through the application of personality (Chapter 3.2.1 and Chapter 3.3.1-3.3.3). However, this definition does not acknowledge the fact that consistency in behaviour does not guarantee a consistency in personality (Carlson 1975, p.395) (Chapter 2.6).

After reviewing the human personality literature both in psychology (Chapter 2) and in consumer research (Chapter 3), a need to *explicitly* define human personality for marketing has been identified. Following the definitions built on the arguments of Allport (1935), Buss (1991), Murrary (1938), and Triandis and Suh (2002), this thesis defines human personality as *an individual's perception of the configuration of his cognition, emotion, and motivation, which activates behaviour and reflects how he adjusts to the environment by incorporating his life experience* (Chapter 2.6). Self-report personality, which is often used in marketing, is the individual's perception of himself at best. A perceived personality does not imply a 'true' personality, which may be obtained by professional psychologists or psychiatrists. Rather, a perceived personality refers to a perceived self, or self-identity (Mead 1934, p.164-166).

The ambiguity of the human personality concept was brought into the study of brand personality (Chapter 4.4.1). Without a clear definition of human personality, Aaker (1997) defined brand personality as a "set of human characteristics associated with a brand (p.347)." Aaker's definition treats human characteristics as personality. This treatment does not reflect the concept of human personality discussed in psychology (Azoulay and Kapferer 2003, p.146 and see the discussion in Chapter 2). Many psychologists would not agree with such a broad concept of personality since personality has been used to refer to *only* psychological processes of human beings (Chapter 2 and Chapter 4.5.1). In addition to the psychological processes, Aaker's brand personality included demographics and appearance. Although other researchers, such as Allen and Olson (1995), documented more precise definitions and referred to brand personality as the "inner" characteristics of a brand (p.393), many others seemed to be unaware of the potential conceptualisation problem of brand personality and still relied on Aaker's definition to devise their own particular scales (Caprara *et al.* 2001; d'Astous and Lévesque 2003; Sung and Tinkham 2005; Venable *et al.* 2005).

Several attempts to measure brand personality existed in the literature (Aaker 1997; Aaker *et al.* 2001; Caprara *et al.* 2001; Sung and Tinkham 2005; Venable *et al.* 2005). Similarly to the development of the Big Five personality inventory for human beings, they all included adjective lists for the subjects (consumers) to rate the brand personality. However, all of them found different dimensionality from the commonly accepted dimensions of the Big Five in human personality. Two possible reasons can explain this occurrence. The first reason may result from the conceptual confusion of brand personality as stated previously (p.127-128). When defining brand personality, many researchers followed Aaker's (1997) path to define brand personality as a "set of human characteristics associated with a brand (p.347)." This definition has led the researchers to investigate personified brand image, rather than brand personality (Lau and Phau 2007, p.435). That is, the overly-broad definition of brand personality led the researchers to include such adjectives as young or attractive in their pool of adjective terms. Different pools of items naturally resulted in different results of factor analysis.

To solve the potential problems of measuring brand personality, a repositioning (re-definition) for brand personality is called for. Human personality is defined as an individual's perception of the configuration of his cognition, emotion, and motivation, which activates behaviour and reflects how he adjusts to the environment by incorporating his life experience (Chapter 2.6). Brand personality is a metaphor of brand-as-a-person. To echo the definition of human personality, brand personality refers to *a consumer's perception (imagination) of the personality a particular brand possesses. Brand personality describes the inner characteristics (i.e. the configuration of cognition, emotion, and motivation), which are conveyed through the individual's experience with the brand and the brand identity* (Chapter 4.5.1).

Both human personality and brand personality are a form of an individual's perceptions. Human personality is a term that is used to describe what a person is like. Similarly, brand personality is a metaphor, which brings a brand to life and is used to illustrate what a brand would be like if it were a person. This perception uses the form of human personality in psychology, where human personality research and its definition have developed over the years (Pervin 1990). If a human personality inventory has good validity and reliability, it is assumed that this inventory can be applied to people as well as to brands (H1a). In other words, human personality and brand personality can be measured by the same means.

> H1a: Brand personality and consumer personality can be measured by the same measurement items.

In addition to the conceptual problems of brand personality, a second and very critical reason lay in the selection of brands for evaluation. The developers of brand personality scales selected brands for their subjects to rate the personality of those brands. For example, Aaker (1997) explained that she ensured that well-known brands were included so that the consumers could comment on the personality of the brands. However, well-known brands do not necessarily convey ‘intimacy’ with the respondents; intimacy is an important element for the respondents to project brands as human beings, as Allen and Olson (1995) observed (p.393). Various scale developments in the (human) personality psychology literature implied that the rating of brand personality resembles peer-rating for human personality. Peer-rating is a popular means to, in part, determine the validity and reliability of personality inventories (Costa and McCrae 1992, p.48). In such a case, the choice of ‘peer’ raters is made among spouses, best friends, or roommates because research has shown that the validity (Paulhus and Reynolds 1995, p.1239) and reliability (Norman and Goldberg 1966, p.691) of personality ratings can be improved according to how close the rater is with the ratee.

In order to consider the brands as ‘peers’, it is crucial to select the brands that can symbolise the human peers. Past research (e.g. Aaker 1997) selected ‘well-known’ brands as peers; however, well-known brands do not necessarily imply the closeness between the brands and the respondents (i.e. the consumers). Thus, the method of selecting the well-known brands (i.e. the ratee) has rendered the validity and reliability of their brand personality scales doubtful. Some researchers (Allen and Olson 1995) have indicated that to enable the brand personality metaphor to work, consumers need in a way to be able to imagine the brands as human beings (e.g. the respondents’ favourite brands). To enable this imagination (perception), a close observation of the brands is necessary. When consumers are able to imagine the brands as human beings, the factor analysis results (i.e. the dimensionality) are the same regardless of whether the subjects are people or brands (H1b).

> H1b: The dimensionality of brand personality resembles that of consumer personality.

However, it is also recognised that brand personality and consumer personality are generated differently, as suggested by Aaker (1995, p.394). An additional hypothesis is then put forward; that is, even though brand personality and consumer personality can be measured by the same means, they still remain as two distinct constructs (H1c).

> H1c: Brand personality and consumer personality are two distinct constructs.

In a nutshell, H1a, H1b, and H1c can be summarised as, although brand personality and consumer personality are two distinct constructs, they can be measured by the same means (H1).

To elaborate the formation of brand personality further, an additional hypothesis is proposed. To personify a brand, a consumer draws inferences based on his observation of "brand behaviour (Allen and Olson 1995, p.393)." Of course, a brand is not able to 'act.' The action is a consumer's perception, which derives from experience of the brand. This experience includes marketers' actions (such as advertising) and consumers' usage of the brand. In addition to the experience a consumer has had with a brand, the consumer may infer a brand's personality based on more observable dimension(s). On the other hand, when evaluating self-personality, an individual may not need to refer to other dimension(s) in order to infer certain dimension(s) because the experience with oneself may be intimate enough to directly assess a particular dimension of personality. In other words, the relationship among brand personality dimensions is proposed to be stronger than that among consumer personality dimensions (H2).

H2: Stronger correlations are present among brand personality dimensions than among consumer personality dimensions.

5.2.2 The relationship between consumer personality and brand personality

The consumer personality studies started from Evans's (1959) classic investigation of Ford-Chevrolet car users (Chapter 3.2.1). Thereafter, consumer researchers have been led to use personality to examine the 'consistent' consumer behavioural patterns in the first phase (Chapter 3.2.1) and second phase (Chapter 3.3.1-3.3.3) of consumer personality research. However, Baugartner's (2002) call to look at personality from a *personology* perspective resulted in a different concept of personality being brought in to incorporate life stories in relation to brands.

The concept of personology focuses on the interaction between personality and environment (Murray 1938, p.4). This interaction resembles Mead's (1934) self-identity (p.179). The relationship between self-identity and brand choice has been much examined (Chapter 4.2.2). This relationship follows the rationale that the meaning of brands has been seen as a resource to construct self-identity (Elliott and Wattanasuwan 1998, p.134). As a result, consumers may use the brands to maintain and enhance their identities. No study has used the concept of personality to reflect self-identity. Instead, they used the 'personality' measures identified from product or brand image to measure self-identity (Belch and Landon 1977; Bellenger *et al.* 1976; Birdwell 1968; Dolich 1969; Grubb and Hupp 1968; Grubb and Stern 1971; Hughes and Guerrero 1971; Landon 1974; Malhotra 1981; Munson and Spivey 1980; Ross 1974; Sirgy and Danes 1982; Sirgy *et al.* 1991).

On the other hand, some research has used rather straightforward methods to examine the relationship between brand image and the self (Escalas 2004; Escalas and Bettman 2003; Malhotra 1981). For example, one of the items Escalas (2004) used to evaluate the congruity between self-identity and brand image was "Brand *X* reflects who I am (p.175)." Even with this direct method to research the relationship between self and brand, the results are inconclusive. While Escalas (2004) found a strong relationship exists between self-brand identity and behavioural intentions, Sirgy *et al.* (1991) found the relationship, though it exists, to be a weak one. It may be that, although this approach may be useful for conspicuous products, it may have difficulty in capturing the connection between consumers and other products, especially products with low levels of involvement, because self-driven goals can be conscious or unconscious (Bargh 1994, p.24-25).

By applying the concept of brand personality, Krohmer, Lucia, and Bettina (2006) found that consumers tend to choose the brands with their preferred personality. Similarly, Helgeson and Supphellen (2004) found that self-congruity has a positive effect on brand attitude. That is to say, a brand personality close to the consumer's self personality has a positive influence over brand attitude (p.225). However, instead of comparing brand and consumer personality, they compared the personalities of the typical brand users and the respondents. No empirical evidence has presented the relationship between self-identity and brand image in the psychological form of personality and no research has compared brand and consumer directly by using the same proper measures.

Personality has been seen by psychologists as a good concept to capture the meaning of self-identity (Leary and Tangney 2003, p.7). In fact, self-report personality can be seen as an individual's perception of his self-identity. Similarly, brand personality is able to represent the consumers' perceptions of the brand as if it were a person. Therefore, if brands are one of the resources for constructing consumers' identities, it is argued that consumer personality is positively related to brand personality (H3).

H3: A positive relationship exists between consumer personality and brand personality with regard to their corresponding dimensions (i.e. the personality dimensions of the Big Five, which are extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience).

Moreover, Klein *et al*. (1993) indicated that a specific self in a specific situation cannot represent a complete whole (p.299). However, it is also argued that an individual is 'completed' by these various occasions using various brands (Sirgy 1982, p.289). It follows that if consumers do use brands to maintain or enhance their own self-identities, the relationship between consumer personality and brand personality should be influenced by neither the level of involvement nor the level of feeling conveyed through the brands (H4). This hypothesis indicates that consumers have consistency in choosing the brands with images that are positively associated with themselves in terms of 'personality' even without their 'strong' awareness (Bargh 1994).

> H4: The relationship between consumer personality and brand personality does not depend on the levels of involvement and feeling.

5.3 Consumer-brand congruence and brand relationship

5.3.1 Consumer-brand congruence

A consumer-brand congruence model indicates the similarity between consumers and their brands. This model was examined empirically by Belch and Landon (1977), Bellenger *et al.* (1976), Dolich (1969), and Ross (1974). A rigorous, theoretical framework of the model did not appear until Sirgy's (1982) review of *Self-Concept in Consumer Behavior*. However, past research has been criticised on the grounds that the methods measuring consumers and brands were either incomplete or intuitive (Chapter 4.2.2). This study proposes to use the personality concept to measure consumers as well as their brands to establish a consumer-brand congruence model.

According to Sirgy (1982), the similarity between consumers and their brands implies that consumers identify their brands with themselves to shape their own identities. This is in line with Gutman's (1982) means-end chain theory. Product and brand attributes can be used to strengthen the values the users intend to enhance (p.60). The means are the product and brand attributes, and the ends are the desired results of consumption, such as accomplishment. That is to say, consumers are guided by their values to choose a brand in a particular product category. These values can be translated to involvement, which is related to self-identity (Bloch and Richins 1983; Hupfer and Gardner 1971; Rokeach 1973; Sherif and Cantril 1947) (Chapter 4.3.1).

Involvement is defined as "a person's perceived relevance of the object based on inherent needs, values, and interests (Zaichkowsky 1985, p.342)." Personal relevance is a subjective experience or feeling of the consumer (Celsi and Olson 1988). It is a term that is used to emphasise that experiential, phenomenological nature. This nature describes a motivational state, for example, motivation to search for information (Bloch *et al.* 1986). Thus, when consumers are highly involved with a certain product, they are motivated to search for information regarding the product. Over time, this information search behaviour increases the consumers' familiarity and expertise in that product category regarding all dimensions of the product (Alba and Hutchinson 1987), including the information about brands.

A brand is an expression of a product. It serves as a medium to link the product to the consumer. The linkage can be explained by the metaphorical meanings found in a brand. The connotations of these meanings, such as brand identity and brand personality, are usually associated with human beings (Stern 2006). The interpretation of the connotations embedded in a brand is subject to each individual consumer. This interpretation can be described as consumers' power to simulate reality (hyper-reality of postmodernism) (Firat 1991) (Chapter 4.2.2). Although consumers are able to construct meanings in whatever way they wish (Firat and Venkatesh 1995), research has shown that the meanings of various brands are mainly used to present who the owners are; i.e. the self-identities (Thompson and Haytko 1997).

When product involvement is high, consumers perceive a high level of personal relevance of the product on the basis of their inherent needs, values, and interests (Zaichkowsky 1985). The higher the inherent needs, values, and interests, the closer they are to the central self (ego) of the consumers (Sherif and Cantril 1947, p.93); therefore, they guide the consumers to choose the brands that carry the meanings reflecting their self-identities (Elliott 1994; Elliott and Wattanasuwan 1998). However, the effect of involvement has been treated as a premise of self-identity. No empirical support has been presented to confirm the relationship between involvement and self-identity (Chapter 4.3.1). Thus, the current study intends to add empirical evidence to the role of involvement in the construction of self-identity through consumers' brand choice. It is, therefore, hypothesised that the higher the level of involvement the consumer has with a product, the stronger is the consumer's perception of similarity between himself and his brand (H5).

H5: There is a positive relationship between product involvement and consumer-brand congruence.

Contrary to the rational, cognitive process of thinking, feeling refers to an evaluative judgement and can be just liking-and-disliking (Zajonc 1980, p.151). In other words, this evaluative judgement drawn by feeling is about opinions, preferences, and evaluations of individuals. Since the opinions, preferences, and evaluations are involved with the individuals' daily information exchange with others, feeling is socially determined (Zajonc 1980, p.153). It is aroused when consumers recognise a sense of relevance to their perceived reality, which may minimise negative emotional load (e.g. social rejection) or maximise emotional gain (e.g. social acceptance) (Elliott 1998). Thus, this relevance is associated with the self (Mittal 1988, p.502; Zajonc 1980, p.157) (Chapter 4.4).

Different levels of feeling describe different levels of ego gratification (Ratchford 1987, p.26). Ego gratification refers to an individual's need to defend, enhance, and express one's self (McGuire 1974, p.189). For example, the individual may express himself by the way he dresses or the style of car he drives. Thus, sensory enjoyment, social acceptance, and self-concept fulfilment belong to various degrees of ego gratification (Ratchford 1987, p.26). In other words, feeling emphasises an expressive representation that is related to self-identity and conveyed by the products (Mittal 1988, p.505). However, in consumer research, the role of feeling has been treated as a presumption (Chapter 4.4). It is merely used to distinguish utilitarian products from symbolic ones. As in the research into involvement, the evidence of the role of feeling in constructing self-identity is scarce. Since, when feeling regarding a product is high, consumers perceive a high level of relevance to their perceived social reality (Zajonc 1980, p.153), the higher the product feeling is, the more likely are the consumers to reflect the expressive representation of the product to their own identities (Mittal 1988, p.505). Thus, it is hypothesised that the higher the level of feeling the consumer has with a product, the stronger is the consumer's perception of similarity between himself and his brand (H6).

H6: There is a positive relationship between feeling and consumer-brand congruence.

Involvement and feeling have been theorised to influence consumer-brand congruence independently (See H5 and H6). However, what is the interaction effect of the two on consumer-brand congruence?

Involvement is related to ego, which represents the strongest value an individual possesses (Sherif and Cantril 1947, p.4) (Chapter 4.3.1). It represents an individual's interest in, concern about, or commitment to the object (or the issue) (Freedman 1964, p.290). To simplify, involvement can be extracted from importance, or personal relevance (Chapter 4.3.2).

On the other hand, feeling represents an expressive representation, which can be strongly or weakly related to 'personal relevance' (i.e. involvement). The relationship between the expressive representation and values is indirect, while involvement refers to the values directly. When the expressive representation is strong enough, it may be translated into involvement. That is to say, while feeling can be transferred to involvement, vice versa may not stand. Moreover, Zajonc (1980) indicated that feeling may be difficult to explain because it cannot be traced back to specific attributes. This difficulty of explanation may be a result of the consumers' inability to verbalize the reasons for their feelings (Elliott 1998). To a certain degree, feeling is more subtle than involvement. Therefore, an interaction effect of involvement and feeling on consumer-brand congruence is expected (H7).

To be more specific, this interaction effect suggests that the effect of involvement may surpass the effect of feeling. Therefore, when involvement is high, the effect of feeling on consumer-brand congruence disappears (H7a); but when involvement is low, the effect of feeling becomes obvious. Under this circumstance, consumer-brand congruence is higher for high feeling than for low feeling (H7b). On the other hand, under the circumstances of both high and low feeling, the effect of involvement on consumer-brand congruence is apparent; that is, consumer-brand congruence is higher for high involvement than for low involvement (H7c and H7d).

H7: There is a significant interaction effect between involvement and feeling on consumer-brand congruence.

H7a: When involvement is high, consumer-brand congruence is similar regardless of the level of feeling.

H7b: When involvement is low, consumer-brand congruence is higher for high feeling than for low feeling.

H7c: When feeling is high, consumer-brand congruence is higher for high involvement than for low involvement.

H7d: When feeling is low, consumer-brand congruence is higher for high involvement than for low involvement.

5.3.2 Brand relationship quality

Brand relationship is a metaphor, used to mirror the relationship between brand and consumers to interpersonal relationships (Chapter 4.5.2). This concept was first proposed by Shimp and Madden (1988) and then refined by Fournier (1994). The refined version of brand relationship was not published until 1998 (Fournier 1998). Compared with the long history of the study of personality, self-identity, and consumption, brand relationship is still very young. The studies of brand relationship in relation to life stories, which are the major sources of self-identity constructions, are mainly qualitative (Fournier 1998; Fournier and Yao 1997; Ji 2002; Robinson and Kates 2005). Moreover, the quantitative studies of brand relationship were limited to information processing (Park *et al.* 2002; Swaminathan *et al.* 2007). Yet, how the brand relationship metaphor is evaluated is unclear.

Simpson, Fletcher, and Campbell (2001) proposed a model of ideal standards to evaluate close relationships. Evaluation itself is a cognitive process. Thus, their model is based on a knowledge structure which incorporates three interlocking components; that is, the self, the partner, and the relationship (Simpson *et al.* 2001, p.89). This model is rooted in Higgins's (1987) self-discrepancy theory and Thibaut and Kelley's (1959) interdependency theory. Higgins (1987) suggested that dissatisfaction resulted from discrepancies among the actual self, the ideal self, and the ought self (p.321). Thus, Simpson *et al.* (2001) argued that since individuals were motivated by self-identity enhancement in general, whether or not the relationship partner could contribute to such enhancement was an index for evaluating the quality of a relationship (p.92-93).

Moreover, according to the interdependency theory, individuals make judgements about their relationships according to two standards. The first standard examines the degree to which they believe they are receiving the benefits they deserve from their current relationship partner (Thibaut and Kelley 1959, p.33-34). These benefits are the enduring values the individual holds. Another standard looks at the degree to which the current relationship partner provides outcomes that exceed those of available alternatives (ibid, p.64). Therefore, a specific relationship outcome is perceived as satisfying only when it achieves an individual's enduring values or exceeds levels of other potential partners. However, standards for relationship functioning and perceptions of specific aspects of relationships vary across individuals (Karney, McNulty, and Bradbury 2001, p.35). This variation suggests that general beliefs and values depend on how an individual perceives specific aspects of the relationship to influence his judgement of the relationship as a whole (Kelley *et al.* 1983, p.32-33).

In summary, a relationship of good quality involves a relationship partner, who reflects the self-identity of the other party in the relationship (Higgins 1987) and enhances the values the other party holds (Thibaut and Kelley 1959, p.33-34). The values of a relationship may be transferred from involvement (See the discussion of involvement in the previous section, Chapter 5.3.1). Bridging the self-identity theories, the interpersonal relationship theories, and the brand relationship concept, it is then argued that the values of the consumers may be closely reflected by the brand meanings when the product involvement level is high than when it is low; in turn they may identify the brands with themselves, and therefore, have a better relationship quality (H8).

H8: There is a positive relationship between involvement and brand relationship quality.

In addition to involvement, feeling may influence the level of brand relationship quality. Feeling, as discussed in Chapter 4.4, involves different levels of ego-gratification (Ratchford 1987). It emphasises an expressive representation, and this expressive representation conveyed by the products is related to self-identity (Mittal 1988). The higher the product feeling is, the more likely are the consumers to reflect the expressive representation of the product to their own identities (Mittal 1988). According to the interpersonal relationship theories (Higgins 1987, Simpson *et al.* 2001, Thibaut and Kelley 1959), the relationship quality is good when an individual is identified with his relationship partner. Therefore, it is proposed that when a consumer's feeling towards a product is high, he tends to perceive a better quality of relationship with his brand (H9).

> H9: There is a positive relationship between feeling and brand relationship quality

An interaction effect on brand relationship quality is anticipated (H10): similar to the interaction effect between involvement and feeling on consumer-brand congruence discussed in Chapter 5.3.1 (p.137-138). The interaction effect indicates that the effect of involvement may exceed that of feeling on brand relationship quality. Involvement is related to ego, which represents the strongest and core value an individual possesses (Sherif and Cantril 1947, p.4) (Chapter 4.3.1), while feeling represents an expressive representation, which can be strongly or weakly related to involvement. The relationship between the expressive representation and values is indirect, whereas involvement refers to the values directly. Thus, when involvement is high, the effect of feeling on brand relationship quality evaporates (H10a); but when involvement is low, the effect of feeling becomes clear. Under this condition, brand relationship quality is better for high feeling than for low feeling (H10b). However, under the conditions of both high and low feeling, brand relationship quality is higher for high involvement than for low involvement (H10c and H10d).

> H10: There is a significant interaction effect between involvement and feeling on brand relationship quality.

H10a: When involvement is high, brand relationship quality is similar regardless of the level of feeling.

H10b: When involvement is low, brand relationship quality is better for high feeling than for low feeling.

H10c: When feeling is high, brand relationship quality is better for high involvement than for low involvement.

H10d: When feeling is low, brand relationship quality is better for high involvement than for low involvement.

5.3.3 The relationship between consumer-brand congruence and brand relationship quality

Self-identity is often blended with interpersonal relationship (Aron 2003; Aron *et al.* 1991; Cooley 1964; James 1890; Mead 1934; Simpson *et al.* 2001). Yet, the link between brand relationship and self-brand-identity has not been examined.

According to the interpersonal relationship theories, similarity is the main determinant of liking (Rodin 1978, p.476); and liking is a fundamental element in an intimate interpersonal relationship (Blumstein and Kollock 1988, p.469). To use Cooley's (1964) metaphor, to some extent an individual is a reflection of those to whom he is close – a "looking glass self." The construction of self is a continuous process so that during the course of the interaction with the relationship partner, the self will become more like his partner (Zajonc *et al.* 1987, p.335). Thus, "relationships shape one's conceptions of the self in general (Aron 2003, p.443)."

This argument is also in line with Thibaut and Kelley's (1959) interdependency theory (p.64).

There are two main reasons that relationships shape one's self-identity. First, a key mechanism by which relationships seem to affect the self is behavioural confirmation (Darley and Fazio 1980, p.869). Behavioural confirmation refers to the process that an individual adopts to confirm the expectations of others. Acting to confirm the expectations is used, in a way, to form the individual's self-identity. For example, Berk and Andersen (2000), in a series of experiments, have proved that the behavioural confirmation effect is presented through an interaction with a relationship partner, and this effect is able to shape an individual's behaviour, and then, self-identity (p.556-557). Although the brand is not able to 'confirm' the behaviour of the brand owner, the brand owner is able to obtain such confirmation from other social intercourse. An extreme example is through brand community, where owners of the same brand get together to interact with the brand as well as other brand owners (McAlexander, Schouten, and Koenig 2002; Muniz and O'Guinn 2001). Thus, behavioural confirmation can be received through life stories (Fournier 1998, p.361).

Another way in which relationships affect the self is that, in a close relationship, the other is included in the self (Aron *et al.* 2001, p.484). Aron *et al.* (2001) argued that the cognitive representations of self processed a close relationship which incorporates the relationship partner's resources (social and material), ideas (perspectives), as well as identities (p.484-486). An individual's self identity is his perception of himself. Alternatively, according to James (1890), self-identity is determined by consciousness and self-knowledge (p.400-401). Research has shown that the self and his close relationship partners share the elements of the knowledge structures (Aron *et al.* 1991; Smith, Coats, and Walling 1999). It is recognised that the brand is unable to 'share' the knowledge structure of its owner. However, consumers interact with their brands when they use them and when they receive both formal information from the company (e.g. newsletters or advertising campaigns) and informal conversation with other social agents (e.g. colleagues, friends, or family). For example, if a brand company emphasises ethical and environmental issues (e.g. the Body Shop), the brand user may incorporate these ideas into his knowledge structure. The interpersonal relationship theory stresses that such incorporation occurs only when the individual is in a close relationship (Aron 2003, p.445).

Although brand relationship mirrors interpersonal relationship, it lacks the reciprocity that is much required in an interpersonal relationship (Bengtsson 2003, p.155). To examine whether a brand relationship metaphor is valid, one of the approaches is to relate the relationship quality to self-identity. Since a close relationship requires similarity, which results from behavioural confirmation and overlapping identities, it is therefore proposed that the brand relationship quality is positively associated with consumer-brand congruency (H11). Consumer-brand congruence refers to the closeness between the consumers' perception of themselves and brand personality; thus, the closer the brand and consumer personality perceived by the consumers, the better the relationship is.

H11: The more congruence there is between consumer personality and brand personality, the better the brand relationship is.

If consumers do use brands to maintain or enhance their own self-identities, the relationship between consumer personality and brand personality is supposed to be consistent. This argument is consistent with Hypothesis 4. Sirgy (1982) indicated that an individual used brands in various situations to maintain and enhance his self-identity (p.289). Therefore, the relationship between consumer-brand congruence and brand relationship is supposed to be independent of other influences, such as involvement and feeling conveyed through the brands (H12). The influences of involvement and feeling, if any, will be translated to consumer-brand congruency or brand relationship quality (see H5-H10), but not the relationship between the two. It is argued that, as long as consumer-brand congruency is high, brand relationship quality is good (H12).

> H12: The relationship between consumer-brand congruence and brand relationship quality does not depend on the levels of involvement and feeling.

5.4 Summary

Twelve main hypotheses have been proposed. These hypotheses are developed on the basis of the self-identity and interpersonal relationship theories. They aim to investigate whether consumers are able to view brands as people by applying personality theories (brand personality) and interpersonal relationship theories (brand relationship).

These hypotheses will be examined in a quantitative (statistical) manner. Philosophical foundations of the research design and the proposed statistical methods to test the hypotheses will be elaborated in the next chapter.

Chapter 6. Methodology

6.1 Introduction

Methodology describes the procedures used to acquire knowledge (O'Shaughnessy 1992, p.268). Its foundations are based on a set of conceptual and philosophical assumptions that justify the use of a particular method (Payne and Payne 2004, p.148-150).

This chapter affirms that the assumptions of the current research are based on critical realism (post-positivism), which argues that social reality is real, but that it is only known in an imperfect and probabilistic manner (Corbetta 2003, p.14-19). The chapter offers a broad view of the philosophy of social science and, thereby, justifies the positioning of the current study.

On the basis of the philosophical foundations, a research design of quasi-experiment from a field setting is proposed for the study. Relevant design issues, such as sampling, experimental procedures, and scale validation, are discussed. Finally, methods of data analysis (i.e. structural equation modelling, analysis of variance, and regression analysis) are introduced.

6.2 Research philosophy

The current study takes the philosophical position of critical realism. Critical realism argues that social reality is real, but it can only be known in an imperfect manner (Corbetta 2003, p.14-19). This view is also called post-positivism (ibid, p.14). Based on this position, the research expects to explain the phenomena it sets out to observe by causal relationships, and expects to generalise the observation to the conceptual framework (Chapter 5) on the basis of probability theories by using statistical analysis. It is deductive in nature, and its aim is the testing of theory.

Several competing schools exist in the philosophy of social science. However, the general division holds two dominant streams, namely, positivism and interpretivism (Hudson and Ozanne 1988, p.508)[3]. They differ in their views of ontology, and therefore, epistemology. Ontology refers to what the world is or what can really exist (Smith 1998, p.279). In other words, ontology deals with the format of social reality (Corbetta 2003, p.12). The central question asks whether social reality is considered an objective entity (Bryman 2004, p.16). An objective entity refers to the social reality that is a real and objective world, existing outside the human mind, and which is independent from interpretation (Corbetta 2003, p.12). Positivism, taking its stance from natural science, believes social reality to be an objective entity. It believes that it is external to the observer; therefore, the observer can investigate reality objectively; that is, free from judgement. On the other hand, interpretivism argues that objectivity is impossible because social phenomena and their meanings are continually being constructed by social actors (Bryman 2004,

[3] Positivism and interpretivism represent incommensurable philosophical assumptions (Hudson and Ozanne 1988, p.508). Although it is recognised that each of these traditions has developed other philosophical assumptions (such as logical positivism, empiricism, and realism for the positivism tradition, and such as symbolic interactionism, phenomenology, and relativism for the interpretivism tradition), the argument in this section is based on the shared philosophical assumptions of each tradition.

p.17). There is no detachment between the observer and the observed (Corbetta 2003, p.21); thus, subjectivity is necessary in this realm.

At the more concrete level, the ontological assumptions are closely linked to the assumptions about how knowledge can be acquired. These assumptions are referred to as epistemological assumptions. To positivists, since social reality is external and independent to the observer, this reality can be explored only through sense data, such as experience, observation, or experiment (Benton and Craib 2001, p.14). In contrast, interpretivists argue that social science – the study of human beings – is fundamentally different from natural science. In social science, the investigator is dependent on the social reality which he studies because he is embedded in the social context while conducting the investigation. Thus, neither the subjects being studied nor the investigator conducting the study can offer a detached interpretation of the meanings of their behaviour; it is the meanings that are important (Bryman 2004, p.13-14). While positivists seek to explain and generalise human behaviour by causal relationships, interpretivists aim to understand, a term called *Verstehen*, used by Weber (Eldridge 1971, p.28), human behaviour (Hughes and Sharrock 1997, p.102-103). The understanding is constructed through interaction between investigator and subjects (Bryman 2004, p.14). Thus, it entails an orientation of subjectivity and individuality. Generalisation is not important.

However, such extremeness of subjectivity rules out the very existence of science, as Corbetta (2003) argued that

> "If human action always has a unique dimension or if reality is merely a subjective construction, then generalisations above the

> individual level cannot be made and knowledge cannot be objective. Moreover, the objectivity of knowledge is also denied by the very mechanism through which knowledge is pursued, since this involves the non-separation of the researcher from the object studied (p.26)."

Even Weber, who was one of the earliest social scientists to believe in the assumptions of interpretivism, strove to go beyond subjectivity and individuality. Although he started out by focusing on the individual, he did not neglect the great systemic issues or the institutional dimension of society. Moreover, he recognised the possibility of reaching generalisation and, therefore, conceptualised the ideal types (Freund 1966, p.66-67). Weber's ideal type is abstract and comes from empirically observed regularities (Burger 1976, p.124). It can be found at different levels of generality, ranging from the single individual to society as a whole (Corbetta 2003, p.22). However, the ideal types are not reality (Weber 1949, p.102). They are 'ideal' in that they are mental constructs with a function to direct knowledge. In a way, the ideal type resembles the latent variables described by structural equation modelling (Bollen 1989, p.11).

Nevertheless, interpretivists are right about the attachment between the observer and the observed. The empirical observation is the perception of reality, which is "theory-laden (Hanson 1958, p.19)." That is to say, despite the assumption that reality exists independently from the cognitive and perceptive activity of humans, the empirical observation remains conditioned by the social circumstances and the theoretical framework in which it takes place (Corbetta 2003, p.19). Critical realism recognises the ignorance of the positivists' assumption of social reality and, therefore, redefines it. The updated assumption states that there is no social world beyond people's perceptions and interpretations. The knowledge individuals have of their social reality influences their behaviour. However, this knowledge can be incomplete (May 1997, p.11). Therefore, though social reality exists external to the researcher, the way to reach this reality is not perfect.

This redefined assumption brings forward the nature of theory testing, a deductive process for testing hypotheses. According to O'Shaughnessy (1992), "Observation is necessarily selective and science is a combination of inspiration and deduction. … Explanations do not emerge from vast collections of facts but from ideas incorporating concepts that provide a criterion of what to look for (p.272)." In other words, a researcher must be guided by theory to generate hypotheses because facts (i.e. data) can be interpreted only on theoretical grounds; facts rest on theory, not the other way round. In traditional natural science, a theory is a system of mutually supporting laws and each law in the theory is supported by the facts. However, in social science, the laws are probabilistic and open to revision (Black 1993, p.25). Thus, it is recognised that rejecting a null hypothesis only indicates that whatever has happened very probably did not happen by chance alone (ibid, p.14).

The purpose of hypothesis testing is to explain the observed phenomena. The key to explanation rests on causality among objects (Easton 2002, p.104), but one should not assume that causality refers to the relationship between cause-event and effect-event. Rather, causality refers to the causal powers of objects (Sayer 1992, p.104-105). These causal powers are the ways of acting, or "mechanisms," as Bhaskar (1978, p.14) termed them. Thus, a causal explanation identifies the objects and their mechanisms and the way they combine to cause events. Such causality can be established by theory, though not by statistics (Black 1993, p.7).

The social reality that the current research proposes to investigate is the perceptions of consumers. These perceptions are how they see themselves (consumer personality), how they see their brands (brand personality), and how they see the relationship between themselves and the brands (brand relationship). The research intends to identify whether the combination of consumer and brand personality, controlled by product involvement and feeling, influences brand relationship on the basis of the self-identity theories. Although the perceptions may not be the truth (in the sense of the consumer's true personality, as opposed to his perceived personality), they reflect, to a certain degree, how consumers' mental processing works.

6.3 Research design

6.3.1 Research strategy

The selection of research method: quasi-experiment from a field setting

On the basis of the assumptions of critical realism, quantitative methods and statistical analysis were applied. Main quantitative methods include survey and experiment. Survey, according to Churchill (1999), is a type of descriptive research (p.104), whereas experiment is designed to examine causal relationships (Bagozzi 1980, p.190). Since the centre of the explanation for social reality is causality (Easton 2002, p.104), an experimental design is appropriate for the current study.

There are two types of experiments, namely, true experiment and quasi-experiment. The main difference between these two lies in the level of control of the experiments. A true experimental design entails a higher control of the experiment and the subjects are exposed to the arranged stimuli randomly (Kirk 2003, p.3). For example, advertising research investigating the relationship between violence in advertisements and attitudes towards the adverts can facilitate a true experimental design that assigns subjects randomly to one of the two conditions; one contains an advert with a high level of violence while the other contains low level violence. The advertisements of high and low levels of violence are called ‘stimuli’, which means that they ‘stimulate’ the attitudes that the research proposes to investigate, and which are controlled by the researcher.

On the other hand, a quasi-experimental design has less control of the experiment in that, instead of randomly assigning the subjects into controlled groups, they are taken from pre-existing groups (Campbell and Stanley 1963, p.34). For example, research investigating the relationship between household income and consumer behaviour can be designed to compare the subjects from a residential area, where household income tends to be high, and from areas where household income tends to be low. In this case, household income is not ‘controlled’ by the experimenter in the same sense that the violence level is controlled in the previous case.

The current study proposes to investigate the relationship between consumer personality, brand personality, and brand relationship. Brand personality and brand relationship could change according to the brands the subjects evaluated. The brands are from different product categories, with which consumers may have different levels of involvement and feeling. The different levels of involvement and feeling may influence brand evaluation, and then, brand personality and brand relationship. To examine the effects of involvement and feeling, instead of manipulating the levels of involvement and feeling through an experimental setting, the product categories were pre-selected on the basis of the results of product pre-test to represent different levels of involvement and feeling (Chapter 6.3.2). Since the product categories representing different levels of involvement and feeling were pre-existing and assigned by the experimenter, this design was a quasi-experiment.

Moreover, the brands were neither assigned to the subjects nor manipulated (created) by the experimenter. The subjects were free to choose their favourite brands in the product categories allocated to them. Since brand personality and brand relationship are metaphors showing that if the brands were human beings, how consumers imagine their brands would be and what relationship they would have with their brands, the importance of the brand is critical to their imagination. In order to stimulate the subjects' imaginations to closely resemble the reality, the use of real brands was essential. The use of a true brand is termed field experiment (Harrison and List 2004, p.1012). Therefore, it was a quasi-experiment from a field setting.

The selection of sample

The samples were selected from the undergraduate students at Warwick University. The convenience student sample has been criticised as showing a lack of generalizability (Lynch 1982, p.229; Peterson 2001, p.450). However, this criticism confused effects application with theory application.

According to Calder *et al.* (1981), effects application refers to matching observed data directly with events beyond the research setting while theory application uses theory to explain events beyond the research setting (p.197). Therefore, effects application is inductive, and requires a research setting that accurately reflects the real world. On the other hand, theory application is deductive and aims to test a general theory; hence, statistical generalisation of the findings is not important. As long as a sample is relevant to the universe of the theory, it constitutes a test of that theory (Kruglanski 1973, p.351).

Moreover, random sampling is not only unnecessary in theoretical research, but it may actually interfere with achieving a theory test (Calder *et al.* 1981, p.241). That is to say, if a background factor is important enough, the researcher should include it in the theory testing, rather than using 'random samples' to off-set the interaction effects of the factor. In addition, random sampling increases the chance of making a false conclusion about whether there is covariation between the variables under study. When the subjects are heterogeneous, the error variance is increased and the sensitivity of statistical tests in identifying the significant relationships declines (Cook and Campbell 1976, p.233-234). By selecting a maximally homogeneous sample, these random sources of error can be controlled, and the likelihood of making a Type II error decreased (Winer 1971, p.7-8). For these reasons, a homogeneous sample, such as a student sample, is desired and appropriate in the current study.

Exploratory interviews

The purposes of exploratory research include clarification of concepts (such as the measurement models) and obtaining insights into the research questions (Malhotra

1999, p.79). Broadly speaking, exploratory research involves the search of existing literature and the survey with the key informants (Churchill 1999, p.103). Prior to the design of experiment, an exploratory research was conducted by searching the existing literature and interviewing with the key informants. The literature search was reviewed and summarised from Chapter 2 to Chapter 4. The survey with the key informants was carried out by depth interviews. According to Churchill (1999), this type of survey "attempts to tap the knowledge and experience of those familiar with the general subject being investigated (p.105)."

The key informants of the current study are the potential respondents and experts in the area of consumer research. The experts were two doctoral students specialising in consumer research, while the potential respondents (interviewees) were drawn from the sample frame discussed in the previous section. They were undergraduate students from Warwick University. Prior to the quantitative data collection, eleven interviews were carried out with the potential respondents at the exploratory stage. The exploratory interviews were conducted on a semi-structured basis. The main questions asked included (i) the interviewee's perceptions of their personalities, (ii) their relationship with friends and family in general, (iii) their favourite brands and least favourite brands in various product categories, and (iv) their perceptions of brand personality and brand relationship. In order not to influence the interviewees' responses to the questionnaire or to the interview questions, the interviewees were approached to discuss the questionnaire approximately four weeks after the interviews took place. The profile of the interviewees is shown in Appendix 9, and the analysis of the interviews is reported where necessary.

6.3.2 Experiment design

Experiment design

The research is a 2 (high versus low involvement) x 2 (high versus low feeling) factorial design. The purpose of including both involvement and feeling in the experiment design is twofold. First, it aims at extending the results across different types of products. Secondly, it intends to examine whether the respondents use only certain products to reflect their self-identities. This 2 x 2 classification follows the FCB (Foote, Cone & Belding Communications) grid (Vaughn 1980, 1986). To classify the product categories on the basis of the FCB grid, Ratchford (1987) developed easy-to-administer measurements for the level of involvement and for thinking and feeling. He applied the scale to 100 products and found that the products could be classified into different categories. For example, sports cars were in the high involvement and high feeling category; beer was in low involvement and high feeling; liquid bleach was in low involvement and high thinking; and car insurance was in high involvement and high thinking.

However, research has indicated that thinking and feeling may not be on the same continuum (Kim 1991, p.73). In fact, thinking and feeling induce different mental processes (Zajonc 1980, p.151). In other words, consumers could be high in both thinking and feeling. Moreover, thinking edges very close to involvement (Putrevu and Lord 1994, p.79). Therefore, the current study adjusted the original FCB grid by replacing the thinking dimension with low feeling.

Product pre-test

The purpose of the product pre-test was to select four appropriate product categories located in each of the four groups (high/low involvement x high/low feeling). Although it is acknowledged that involvement refers to an individual's internal state (Chapter 4.3.1), research suggests that, in general, consumers tend to perceive similar levels of involvement for the same product (e.g. Kim, Morris, and Swait 2008, p.104). Thus, to consider the length of the questionnaire of the main study, questions of product involvement were not included. Instead, a product pre-test was installed to examine the level of product involvement and feeling of the intended subjects.

On the basis of the exploratory interviews and Ratchford's (1987) product exploration, sixteen products were selected for product pre-test. These products were cars, banking services, soap, beers, jeans, mobile phones, washing powders, digital cameras, washing-up liquids, shampoos, laptop computers, shower gels, underpants, desktop computers, snacks, and soft drinks.

Sixteen products were spread across five questionnaires; each questionnaire contained four products. All questionnaires included the same product, car, in order to examine whether group variance was too great to analyse further. The involvement and thinking-feeling measurements followed Ratchford's (1987) design. Three items measured the level of involvement and five items measured the level of thinking-feeling. They were all rated on an 11-point semantic differential scale. To ensure the appropriateness of the product being selected for the main study, two additional questions asked the respondents: (i) whether they have the product under rating and

(ii) the level of familiarity with the brands for each product category. A sample questionnaire is attached in Appendix 4. Two hundred and six questionnaires were distributed in a second year compulsory module at Warwick Business School. Each student was assigned one of the five questionnaires randomly. The random assignment was done by sorting five sets of questionnaires into a systematic order prior to distributing. The students filled out the questionnaires voluntarily. One hundred and fifty-two questionnaires were returned. The response rate was 74%. The respondents were comprised of about 40% males and 60% females. The average age was between 18 and 24, with a 95% concentration in this range. The detailed analysis of product pre-test is presented in Appendix 3.

Cars from different questionnaire sets were shown to have similar results by ANOVA examinations. The F statistics revealed that the *p*-values of the responses for cars were greater than .05 (ranged from .53 to .99), indicating a low group variance of different sets of questionnaires. Thus, it was appropriate to examine the levels of thinking and feeling across different questionnaires. The results showed that feeling and thinking were two different dimensions, which demonstrated that it was inappropriate to plot feeling and thinking on the same continuum. Thus, it was legitimate to focus on one factor, feeling. A summated scale was formed for involvement and feeling to plot the product categories for visual inspection.

Four products, situated at the extreme of each quadrant in Figure 6-1, were selected for further examination of whether most undergraduate students consumed or possessed the products and how familiar they were with the brands in the product categories. However, it was found that only about 40% of the undergraduate students owned a car. On the other hand, the selection of the brands for mobile phones was found to be influenced by the package deals offered by the service providers (such as Vodafone). This characteristics of the product category differed from other product categories; therefore, it was ruled out from further analysis, and was replaced by the third extreme product category, jeans. The frequency results suggested that more than 85% of the respondents consumed or possessed the selected products and that more than 65% were familiar with the brands of the product categories. The laptop computer category was chosen for high involvement and low feeling; the washing-up liquid for low involvement and low feeling; the jeans for high involvement and high feeling; and the soft drinks for low involvement and high feeling. These four products were the four stimuli in the main experiment.

Figure 6-1 Two-dimensional (involvement versus feeling) plot for the product pre-test

Questionnaire design

The experiment was a 2 (high versus low involvement) x 2 (high versus low feeling) factorial design. As a result, there were four questionnaires. Each questionnaire used a different product selected from the product pre-test as the object under study. These products were jeans (high involvement – high feeling), laptop computers (high involvement – high thinking), washing-up liquids (low involvement – high thinking), and soft drinks (low involvement – high feeling). Except for the different products being used in the questionnaires, other elements (i.e. the instructions and the questions) were the same. These questions examined consumer personality, brand personality, and brand relationship. Questions regarding the level of familiarity of the product under study and demographic information were also included in the questionnaire. A sample questionnaire is shown in Appendix 5.

Experiment procedure

The questionnaires were distributed to the undergraduate students in the lectures, seminars, residence halls, undergraduate common rooms, and individual pigeon holes at the University of Warwick. The participating academic departments included the Warwick Business School, Warwick Engineering School, Economics department, Sociology department, Physics department, Psychology department, English department, French department, Film and TV department, and Education department. Several cash prize draws of £5, £10, and £20 were offered to encourage the students to fill out and return the questionnaires.

The questionnaire contained a cover letter explaining the purpose of the study and assuring the participants of the confidentiality of the data they would provide. Each participant was assigned randomly to a product category. The random assignment was facilitated by sorting four sets of questionnaires into a systematic order prior to distributing. To be able to conduct the prize draw and to ensure that each student filled out only one questionnaire, the participants were asked to leave their University numbers and names on the cover page of the questionnaires.

6.4 Measurement scales

6.4.1 Personality inventory

The conceptual framework (Chapter 5) hypothesised that consumer personality and brand personality can be measured by the same personality inventory. Various personality inventories are available in the personality psychology. Some of these inventories have been applied to consumer research (Chapter 3.2). However, the application of psychologically developed personality inventories reduced drastically after the emergence of consumption-specific personality development (Chapter 3.3).

The personality discussed in this thesis refers to the respondents' perceptions of their and the brands' personalities; thus, a lexical approach to studying such perception is considered appropriate (Chapter 2.5.2). This approach has resulted in different numbers of dimensions being generated from factor analysis, such as Digman's two factors (Digman 1997), Eysenck's three factors (1970), Cattell's sixteen factors (1965). However, the most recognised number is five, and the five-dimension structure of personality is called the Big Five. These five factors are extraversion, agreeableness, conscientiousness, neuroticism, and openness to new experience. It was discovered by Fiske (1949), replicated by Tupes and Christal (1961), Norman (1963), Borgatta (1964), and Smith (1967). However, it was Goldberg's (1981b) and McCrae and Costa's (1985a) studies that led the Big Five into a contemporary age. The definitions of the Big Five are described in Table 6-1

Table 6-1 Definitions of the Big Five

Definitions of the Big Five
Extraversion A tendency to seek for stimulation in life and enjoy activities in groups
Agreeableness An interpersonal tendency that describes altruisticity
Conscientiousness A tendency to be self-disciplined (or the control of impulses)
Neuroticism A tendency to be emotionally unstable
Openness to new experience A tendency to be open-minded to new ideas
NB: The definitions are extracted from Costa and McCrae (1992, p.14-16), but the meanings have been researched, discussed, and refined since Allport and Odbert's (1936) research. A detailed account of the evolution of the Big Five is reviewed by John (1990) and John and Srivastava (1999).

Costa and McCrae (1992; McCrae and Costa 1987) devised a personality inventory. Each of the five factors in their personality inventory contains six sub-dimensions. For example, the sub-dimensions of extraversion are warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions. Each sub-dimension is measured by eight statements; one statement of warmth is "I really like most people I meet (Costa and McCrae 1992, p.69)." Thus, there are 240 items (5 factors x 6 sub-dimensions x 8 statements). Although this scale has been shown to be reliable and valid (Paunonen and Ashton 2001), two detrimental problems exist. First, this inventory contains too many items. The developers estimated that it would take approximately forty-five minutes to complete the personality inventory. If the respondents were asked to fill in the personality inventory for themselves and for the brands, and then answer the brand relationship questions, it would take more than ninety minutes to complete the questionnaire. The length of the personality inventory would make data collection impossible. Moreover, this personality inventory is based on behavioural statements. Behavioural statements would be easier for the respondents to related to their own behaviour, not to the 'brand behaviour' since heavy imagination of the-brand-as-a-person may be required. These behavioural statements would make data collection difficult.

Though sentences express finer and subtler thoughts, single-word descriptors have some advantages (Saucier and Goldberg 1996, p.32). Therefore, a simple, but comprehensive, personality inventory is required. Goldberg (1990) developed an adjective-based personality inventory, containing 100 uni-polar adjectives to measure the Big Five. Then, he (1992) transformed these 100 items into a 50-item bipolar scale. The 100-item uni-polar scale was found to be more robust. Therefore, Saucier (1994) built on Goldberg's development to shorten the scale to a 40-item personality inventory. This personality inventory has been found to be reliable and valid (Dwight, Cummings, and Glenar 1998, p.547; Mooradian and Nezlek 1996, p.214). Moreover, when the potential respondents used this inventory to rate their personality and brand personality in the exploratory stage, they indicated that the personality inventory was easy to understand and to answer for themselves as well as for the brands. With the advantage of the simple format, it was chosen as the personality inventory for both consumer and brand.

6.4.2 Brand relationship quality scale

After Blackston (1992) proposed the concept of brand relationship, many efforts have been focused on operationalising this concept (Fournier 1994; Hess and Story 2005; Nysveen *et al.* 2005; Veloutsou 2007). However, Fournier's (1994; 1998) conceptualisation and development was the most complete (Chapter 4.5.2).

For example, Veloutsou's (2007) brand relationship scale suffers from her less than rigorous methods of scale development. Her development was purely exploratory; that is, the dimensionality was a result of exploratory factor analysis, rather than of theorising. She did not conceptualise brand relationship prior to data collection. Nor did she justify the results. Moreover, she only depended on one product category (i.e. lipstick), which may be considered too narrow to capture the whole concept of brand relationship. Other developments (Hess and Story 2005; Nysveen *et al.* 2005) conceptualised brand relationship more carefully, but the process of the scale development was not rigorous in that the items were generated intuitively without empirical justification.

On the other hand, Fournier (1994) followed scrupulous scale development procedure, both theoretically and empirically. She identified seven dimensions of brand relationship quality, namely, behavioural interdependence, personal commitment, love and passion, intimacy, self-concept connection, nostalgic connection, and partner quality. Her empirical identification split self-connection into self-concept connection and nostalgic connection. She used self-concept connection to reflect the degree to which the consumers identify with their brand partners (p.129) and nostalgic connection to reflect the degree to which the consumers understand their brand partners through their life experience (p.129-130). This scale has been replicated by various studies (Chang and Chieng 2006; Monga 2002; Park *et al.* 2002; Smit *et al.* 2007). Park *et al*. (2002), following the same process to develop a scale, re-assessed Fournier's (1994) brand relationship quality and generated similar results. However, they added one dimension, that is, trust, and combined Fournier's behavioural interdependence and personal commitment to form another dimension, called commitment.

A close examination of the items confirmed Park *et al.*'s criticism that three dimensions, namely, behavioural interdependence, personal commitment, and love and passion, were rather confusing. As a result, a total number of fifteen items were submitted for seeking the opinions of experts and potential respondents.

The qualitative results highlighted five problematic items, which are shown in Table 6-2. These five items demonstrated ambiguous meanings. For example, the item, "I would seek out this brand if I moved to a new town where it wasn't readily available (item 14)," was categorised in the dimension of love and passion. However, the behaviour of trying to seek out a certain brand can also refer to a certain degree of dependence on using the brand or a certain degree of commitment to using the brand. Since one item can indicate various meanings, this statement may be multidimensional. The ambiguous items (item 11, 12, and 13) appear to have the same problem. Item 15, "No other brand can quite take the place of this brand", presents a slightly different problem in that 'the place' in the statement can be interpreted as functional place or as emotional place. If it is meant as an emotional place, it can be a dependent other, a commitment subject, or a loved one. As a result, these five items should be terminated.

Table 6-2 Measurement items of behavioural dependence, personal commitment, and love and passion

Updated Classification of the dimensions	Original classification*
Behavioural Interdependence	
1. I feel like something's missing when I haven't used the brand in a while.	-
2. This brand plays an important role in my life.	-
3. It would be a shame if I had to start over from scratch with another brand from this category.	-
Personal Commitment	
4. I feel very loyal to this brand.	-
5. I have made a pledge of sorts to stick with this brand.	-
6. I am willing to make sacrifices for this brand.	-
7. I will stay with this brand through good times and bad.	-
Love and passion	
8. I have a powerful attraction toward this brand	-
9. I feel that this brand and I were 'meant for each other.'	-
10. I am addicted to this brand in some ways.	-
Ambiguous items**	
11. Every time I use this brand, I am reminded of how much I like it.	BI(a)
12. It would be destructive in some ways if I have to select another brand.	PC(b)
13. I would be very upset if I couldn't find this brand when I wanted it.	LP(c)
14. I would seek out this brand if I moved to a new town where it wasn't readily available.	LP
15. No other brand can quite take the place of this brand.	LP

* "-" indicates that the dimensions of the items remained unchanged.

** The ambiguous items were determined by expert opinions and potential respondents. The experts were two doctoral students specialising in consumer research. They agreed that all these five items were unclear. The potential respondents were the interviewees at the exploratory stage and the discussion of the ambiguous items was consistent with the experts' opinions.

(a) BI = Behavioural Interdependence; (b) PC = Personal Commitment; (c) LP = Love and passion

Park *et al.* (2002) added four items to the dimension of partner quality (Table 6-3). However, his definition of partner quality is slightly different from Fournier's (1998). Fournier defined partner quality as the consumer's perception of how well behaved a brand is as a partner in a relationship. Partner quality denotes brand behaviour in the consumer's eyes. On the other hand, Park *et al.* defined partner quality as a two-directional relationship. It signifies the 'quality' of the brand as well as of the consumer. Conceptually, brand behaviour and consumer behaviour are two distinct constructs, even though brand behaviour is formed through consumer perception. As a result, this dimension was split between partner quality as a brand and partner quality as a consumer.

Table 6-3 Measurement items of partner quality

Items of Partner Quality
Partner quality as a brand
1. I know this brand really appreciates me.
2. I know this brand respects me.
3. This brand treats me like a valuable customer.
4. This brand shows a continuing interest in me.
5. This brand takes care of me.
Partner quality as a consumer
6. I would recommend this brand to others.*
7. When I have a good idea for this brand, I want to let it know about the idea.*
8. I think I am an important customer to this brand.*
9. I have a lot of respect for this brand.*
* Items were included by Park *et al.* (2002).

Park *et al.* (2002) added an additional dimension (i.e. trust) to Fournier's (1998) brand relationship quality scale. According to Moorman, Deshpandé, and Zaltman (1993), "Trust is defined as a willingness to rely on an exchange partner in whom one has confidence (p.82)." This confidence implies high levels of honesty, reliability, integrity, competence, and helpfulness (Morgan and Hunt 1994, p.23). Although trust is an important ingredient of any relationship, the concept of trust may be blended into partner quality or behavioural dependence.

> *Yes, of course, I have to be with someone who makes me feel safe. An insecure relationship is hell. I used to have this boyfriend. He was very nice and very attentive and everything. But you know what? He could disappear for like a week and was nowhere to be found. I can't trust him. … I just didn't think I was important enough to him. Otherwise, he would've called me or something, you know.*

[Emma]

For a brand…I think trust is built over time. The quality always needs to be good, definitely. … And even with the people from the company you talk to, they need to be sincere and helpful. If I have a problem with the brand and if I can't find anyone to sort it for me, I don't think I can trust that brand any more. … A lousy brand can sometimes destroy your life, that's my personal experience (talking about laptop computers).

[Steven]

Thus, the dimension of trust can be removed from the study. However, in order to quantitatively verify the qualitative results of behavioural interdependence, personal commitment, love and passion, and trust, all forty-two items of brand relationship quality were submitted for further analysis. Therefore, brand relationship quality, at this stage, by combining Fournier's (1998) and Park *el al.*'s (2002) scales, generated a total number of forty-two items across nine dimensions; that is, behavioural interdependence, personal commitment, love and passion, intimacy, self-concept connection, nostalgic connection, partner quality as a brand, partner quality as a consumer, and trust. A summary of the definitions of the sub-dimensions for the brand relationship quality scale is briefed in Table 6-4.

Table 6-4 Definitions of the sub-dimensions for brand relationship quality

Definitions of Brand Relationship Quality – Sub-dimensions
Behaviour Interdependence[a]
reflects the degree to which the brand is irreplaceable
Personal Commitment[a]
describes consumers' dedication and persistence towards the brands
Love and Passion[a]
involves rich affective grounding, which supports brand relationship endurance and depth
Intimacy[a]
indicates consumers' subjective knowledge of the brand through their brand stories
Self-Concept Connection[a]
reflects the degree to which the consumers identity with their brands

Table 6-4 Definitions of the sub-dimensions for brand relationship quality (Continued)

Definitions of Brand Relationship Quality – Sub-dimensions
Nostalgia Connection[a]
reflects the degree to which the consumers understand their brands through their life experiences
Partner Quality as a Brand[a]
refers to a consumer's perception of how well behaved a brand is as a partner in the brand relationship
Partner quality as a Consumer[b]
refers to a consumer's perception of how well behaved himself is as a partner in the brand relationship
Trust[c]
reflects the level of willingness to rely on the relationship partner

NB:

a. The definitions are extracted from Fournier (1998)

b. The definition is extracted from Park *et al.* (2002)

c. The definition is extracted from Moorman *et al.* (1993)

6.5 Plan for data analysis

6.5.1 Initial analysis

Initial analysis was used for data preparation so that the final dataset was valid for hypothesis testing. It was carried out by the software, SPSS 15.0. Malhotra (1999) suggested that the main steps in data preparation involves examination for accuracy, coding and reverse coding, data cleaning, and adjusting data statistically, if necessary (p.420).

Examination for accuracy

Examination for accuracy is the first step after the questionnaires are returned. It involves screening questionnaires for illegible, incomplete, inconsistent, or ambiguous responses (Malhotra 1999, p.421). In addition to proof-reading the computerised data, examinations of descriptive statistics (i.e. frequency tables) and graphic representations (i.e. histograms) of the variables were applied (Tabachnick and Fidell 2007, p.61).

Non-response bias

Non-response bias occurs when an entire questionnaire is missing or not obtained for a unit selected for the sample (Biemer and Lyberg 2003, p.80). Testing for non-response bias was done by assessing the difference between early and late respondents with regard to the mean of all the variables for the two samples (Armstrong and Overton 1977, p.397). However, because of the distribution methods, it was difficult to distinguish the early respondents from the late ones. For questionnaires distributed in the lectures, the time difference between the earliest and the latest return of questionnaires was no more than one hour because the participants were asked to fill out the questionnaires right away. For the questionnaires distributed via internal post and via departmental common rooms, the questionnaires were collected by the departmental secretaries, who returned the questionnaires in bulk after the end of the research period (i.e. two-week time period for each distribution). As a result, non-response bias was unable to be assessed on the basis of early and late replies. In this case, non-response bias was estimated on the basis of subjective estimates (Armstrong and Overton 1977, p.397). For example, socioeconomic characteristics can be an important indication of non-response bias (Vincent 1964, p.649). Similarly, a comparison between the general profile of the University students and the profile of the respondents was used for evaluating non-response bias.

Data cleaning

Because the dataset involved four groups of sub-datasets, data screening was performed by different product groups (Tabachnick and Fidell 2007, p.106). This step included missing data analysis, test of multivariate normality, detection of multivariate outliers, and test of multicollinearity.

Missing value analysis

Missing value analysis is the first step in assessing the appropriateness of the data after ensuring that the data are correctly entered (Tabachnick and Fidell 2007, p.60). The purpose of missing value analysis is threefold. First, it is to determine whether the extent of missing data is so great that a special procedure for handling missing values should be installed. Tabachnick and Fidell (2007) suggested that if 5% or less data are absent, the problem caused by missing data is not serious (p.63).

Secondly, it is to verify whether a meaningful pattern of the missing values exists from the returned questionnaires. If a pattern is shown, a recommendation is made to investigate further and to be careful about the influence of missing data on the subsequent analysis and interpretation of the results. Little's MCAR test is usually used to examine the pattern of missing values (Little 1988). When the result of Little's MCAR test shows a *p* value greater than .05, a pattern, called missing completely at random (MCAR), can be inferred. This pattern indicates that the distribution of missing data is unpredictable, and this type of missing data can be ignored. However, if the *p* value is less than .05 from Little's MCAR test, a further *t*-test between variables containing missing and non-missing values is performed. If the *t*-test is only significant from other variables than the dependent variables, a pattern called missing at random (MAR) is inferred. This type of missing values is not damaging. On the other hand, if the *t*-test is significant between independent and dependent variables, a pattern called missing not at random (MNAR) is inferred. This type of pattern needs further investigation. (Hair *et al.* 1998, p.46; Tabachnick and Fidell 2007, p.67-71).

Finally, the last step of missing value analysis is to select statistical methods to estimate the values to replace the missing values. These methods include mean substitution, regression imputation, and expectation maximization (EM). If none of the patterns exists (MCAR), any of the methods produces similar results; however, if a pattern exists (MAR and MNAR), EM method is recommended (Tabachnick and Fidell 2007, p.71-72).

Test of multivariate normality

Multivariate normality is the assumption that each variable and all linear combinations of the variables are normally distributed. This assumption is not readily tested, but can be partially checked by examining univariate normality, linearity, and homoscedasticity (Tabachnick and Fidell 2007, p.78 and p.85). The tests of univariate normality, linearity, and homoscedasticity can be simultaneously examined by residual scatter plots, which are generated by placing the scores of the dependent variables on one axis and errors of prediction on another axis (ibid, p.126). When the three assumptions are met, the residual dots will spread evenly along the zero line; therefore, further screening of variables and cases is unnecessary (ibid, p.125-126).

However, if the residual plots do not show satisfactory match with the assumptions, further examinations to identify problematic variables or cases are necessary.

It is noted that the residual plots are performed by pair-wise variables. Thus, performing the residual plots of all variables (131 variables in total in the current research) is very time-consuming and, therefore, not practical. Tabachnick and Fidell (2007) suggested examining only the potentially problematic pairs (p.84). The potentially problematic pairs were detected by the examinations of univariate normality.

Univariate normality refers to the shape of the individual data distribution. It is one of the most fundamental assumptions in multivariate analysis. The normality tests can be conducted through the specific tests (Kolmogorov-Smirnov and Shaprio-wilk tests) produced by SPSS. However, the test results are sensitive to the size of samples. In other words, when the sample size is great, the test results may reveal a non-normal distribution when, in fact, the data are normally distributed (Hair *et al.* 1998, p.73). Thus, it is not the preferred method of determining normality. On the other hand, the visual inspection of the data distribution shape (histograms and box plots) and the actual sizes of skewness and kurtosis are better indicators of normality (Hair *et al.* 2006, p.89; Tabachnick and Fidell 2007, p.80).

A visual inspection of histograms and normal probability plots is able to reveal extreme distributions. This visual inspection is helpful in identifying variables with problematic distribution at the first stage. It is a method that is suggested by most statisticians (Hair *et al.* 1998, p.73). In addition to the visual inspection, an inspection of the skewness and kurtosis is usually performed to verify normality. Skewness measures the symmetry of a distribution compared with the normal distribution, while kurtosis refers to the level of flatness of the distribution. Both skewness and kurtosis approximating to zero represents a normal distribution. However, it is noted that in practical terms real data cannot be normally distributed in that all data are discrete and bounded (Hays 1973, p.297). The normality assumption in practice simply requires that the distribution be sufficiently close to a normal density. Moreover, if sample sizes are relatively large, the normality assumption is often a less stringent requirement (Jobson 1991, p.61; Tabachnick and Fidell 2007, p.73). Therefore, if skewness is between the range of -2 and +2, it shows the skewness is not serious (Heppner and Heppner 2004, p.238), and if kurtosis is within the range between -3 and +3, the level of flatness resembles normal distribution (Hair *et al.* 2007, p.321).

Test of multivariate outliers

Multivariate outliers are cases with an unusual combination of scores on two or more variables (Tabachnick and Fidell 2007, p.73). Methods to evaluate multivariate outliers include Mahalanobis distance, leverage, discrepancy, and influence. Among these methods, multivariate outliers are most easily detected by Mahalanobis distance (ibid, p.73). The significance test resembles a *t*-test, and the *t*-value is calculated as $t = \frac{\text{Mahalanobis Distance}}{\text{Degree of Freedom}}$, where degree of freedom is the number of variables examined (Hair *et al.* 1998, p.69). A conservative criterion (i.e. $p<.001$) of the Mahalanobis distance *t*-test to determine multivariate outliers is suggested to apply as the cut-off point (ibid, p.67).

6.5.2 Scale validation

Scale validation involves tests of unidimensionality (Hughes, Price, and Marrs 1986, p.133), scale reliability (Campbell 1960, p.550), and validity (Heeler and Ray 1972, p.361). Unidimensionality indicates that each measurement item can only reflect one single construct (Hattie 1985, p.139). Reliability is concerned with "the degree to which measures are free from error and therefore yield consistent results (Peter 1979, p.6)." In other words, it refers to the extent to which these observable variables are consistent in what they are intended to measure (Hair *et al.* 1998, p.3). On the other hand, validity refers to how accurately the items measure the construct. It is concerned with "the degree to which a measure assesses the construct it is purported to assess (Peter 1981, p.134)."

Unidimensionality

Unidimensionality refers to each set of indicators with only one underlying construct in common (Hattie 1985, p.139). Unidimensionality is achieved when each item loads on only one construct (Anderson and Gerbing 1988, p.414). Thus, it is assessed by the parameter estimates, which can only be significantly loaded from one item to one construct (Steenkamp and van Trijp 1991, p.287). This criterion indicates that each construct carries one single, inseparable theoretical concept. On the other hand, a lack of unidimensionality represents a misspecification of a measurement model; therefore, it can be inspected by the modification indices generated by LISREL and remedied by re-specifying the measurement models (Anderson and Gerbing 1982, p.453-459).

Reliability

Reliability generally represents the degree of equivalence (Cronbach 1951, p.298). It is concerned with the extent to which the items are homogeneous. In a statistical term, it refers to "the degree to which measures are free from error and therefore yield consistent results (Peter 1979, p.6)." To evaluate reliability, internal consistency reliability is the most important and most reported type of reliability (Churchill 1979, p.69). It is typically examined by Cronbach's coefficient alpha (Peterson 1994).

In assessing reliability, a Cronbach's coefficient alpha value of .70 is seen as acceptable and of .80, as desirable (Nunnally and Bernstein 1994, p.265). Although the high alpha value reflects high consistency and is often desired, Boyle (1991) argued that a too-high alpha value should be avoided because it can imply a high level of item redundancy, rather than scale reliability (p.292). Peterson (1994), after reviewing the application of the alpha in marketing, indicated that an alpha value above .90 should be avoided (p.388-389).

However, the sole reliance on Cronbach's alphas is problematic for two reasons. First, Cronbach's alphas do not consider measurement error (Bollen 1989, p.159), which is by definition an element of reliability (Peter 1979, p.6). Moreover, Cronbach's alphas' assumption that all items have equal reliabilities (Garver and Metnzer 1999, p.43), which is rarely met in practice (Ping 2004, p.129). To complement the issues of Cronbach's alphas, three additional reliability measures generated from Confirmatory Factor Analysis (CFA) were examined, namely, individual item reliability (also known as squared multiple correlation or R^2), composite reliability, and average variance extracted (AVE) (Bagozzi and Yi 1988, p.80; Fornell and Larcker 1981, p.45-46). The definitions and the cut-off criteria for these three reliability measures are displayed in Table 6-5.

Table 6-5 Definitions and cut-off criteria for squared multiple correlation, composite reliability, and average variance extracted (AVE)

Reliability measures	Cut-off criteria
1. **Individual item reliability (Squared multiple correlation – R^2)** Individual item reliability is the reliability measure for the individual item (Fornell and Larcker 1981, p.45). $\rho_i = \frac{Var(T)}{Var(T)+Var(\varepsilon)} = 1-\theta_i$, where Var (T) = covariance matrix between the latent variables (η_i or ξ_k), Var (ε) = covariance matrix between measurement errors, and θ refers to the measurement errors.	**>.50[1]**
2. **Composite reliability** Composite reliability refers to the reliability of the construct as a whole (Fornell and Larcker 1981, p.45). $\rho_c = \frac{(\sum \lambda_i)^2}{(\sum \lambda_i)^2 + \sum \theta_i}$, where λ_i represents factor loadings and θ_i refers to the measurement errors.	**>.60[2]**
3. **Average variance extracted (AVE)** AVE reflects the amount of variance captured by the construct (Fornell and Larcker 1981, p.45). $\rho_{AVE} = \frac{\sum \lambda_i^2}{\sum \lambda_i^2 + \sum \theta_i}$, where λ_i represents factor loadings and θ_i refers to the measurement errors.	**>.50[3]**

1. The cut-off criterion was suggested by MacKenzie, Podsakoff, and Jarvis (2005, p.727)
2. The cut-off criterion was suggested by Bagozzi and Yi (1988, p.80), but Bagozzi and Baumgartner (1994, p.403) revised to a minimum range between .60 and .80 while Garver and Metnzer (1999, p.44) indicated .70 as the cut-off (p.44).
3. The cut-off criterion has been suggested by Bagozzi and Yi (1988, p.80), Bagozzi and Baumgartner(1994, p.403), Garver and Metnzer (1999, p.45), and Fornell and Larcker (1981, p.46)

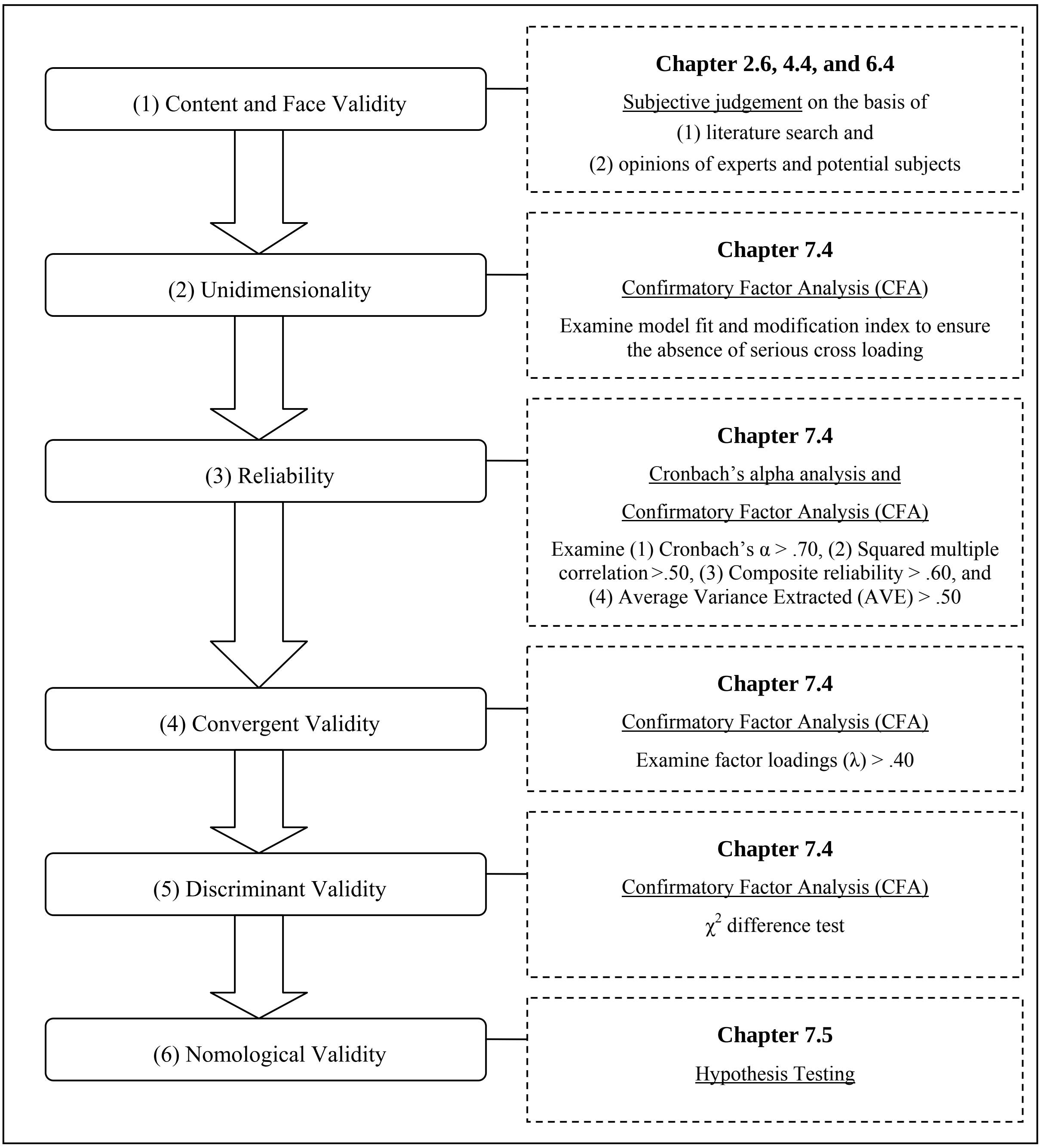
Validity

Reliability and validity are two different, but related, concepts. However, reliability does not guarantee validity, and vice versa (Hair *et al.* 1998, p.584). Even so, Campbell (1960) argued that a scale with good validity can imply acceptable reliability, but the reverse does not hold (p.550). On the other hand, Nunnally and Bernstein (1994) stressed that validity should not be sacrificed for reliability (p.249). Therefore, to validate a scale, reliability is only a necessary, not a sufficient, condition; validity plays a more important role for scale validation (Churchill 1979, p.65).

Scale validity, also termed construct validity, is a concept introduced by APA (1954) and Cronbach and Meehl (1955). It concerns "the extent to which the operational variables used to observe covariation can be interpreted in terms of theoretical constructs (Calder, Phillips, and Tybout 1982, p.240)." In other words, construct validity refers to the degree to which the theoretical constructs can be legitimately inferred from measures used in a study (Netemeyer, Bearden, and Sharma 2003, p.71). Unless it is ensured that the measures are able to correctly infer the constructs under study, examining the relationship among the constructs can be in vain (Diamantopoulos and Siguaw 2000, p.89). Therefore, an examination of construct validity prior to hypothesis testing is crucial (Anderson and Gerbing 1988, p.411); that is, measurement models of various constructs should be validated before assessing the proposed theories (i.e. the hypotheses).

Construct validity can be assessed by five types of validity, namely, content validity and face validity, convergent validity, discriminant validity, and nomological validity in the order of the validation sequence (DeVellis 2003, p.49; Netemeyer *et al.* 2003, p.72) (Figure 6-2). While content and face validity is assessed qualitatively (Chapter 6.4), quantitative analysis is required to validate the constructs. As suggested by Steenkamp and van Trijp (1991), CFA is able to generate the most relevant information (p.284); therefore, it was used for scale validation. In addition to the criteria stated for each type of validity (see p.176-178), the overall assessment was judged by various model fit indices of the CFA results (i.e. REMEA, SRMR, CFI, and TLI), which will be discussed in detail in Chapter 6.5.3.

Figure 6-2 Sequence and summary of scale validation



Content and face validity

Content validity concerns the degree to which the measurement items reflect the domain of a construct (i.e. adequacy of selection for measurement items) (DeVellis 2003, p.49), while face validity is determined by potential respondents after a measure is developed but before the application in a new study (Netemeyer *et al.* 2003, p.73) to ensure that the items "look like" to measure what they are proposed to measure (Nunnally and Bernstein 1994, p.110). Thus, Nunnally and Bernstein (1994) categorised face validity as a limited aspect of content validity (p.110).

Narrowly speaking, content validity is established by composing a set of sample items to reflect every facet of the intended construct (Cronbach and Meehl 1955, p.282). A broader definition of content validity represents "the degree to which elements of an assessment instrument are relevant to and representative of the targeted construct for a particular assessment purpose (Haynes, Richard, and Kubany 1995, p.238)," and the *elements* include all aspects of the measurement process, that is, individual items, response formats, and instructions. Content validation involves both quantitative and qualitative processes that ensure the definition of the domain and the relevance of the research purpose (Guion 1977, p.6-8). To follow Haynes *et al.*'s (1995) suggestion of the guidelines for content validation (p.244-245), content validity of the current research was discussed in Chapter 2.6 and Chapter 4.5.1-4.5.2 for the definition of the constructs and in Chapter 6.4 for the selection of the measurements for the constructs.

Convergent validity

Convergent validity is defined as the agreement among measures of the same construct (Widaman 1985, p.1). Thus, when all factor loadings for a construct are statistically significant, convergent validity is achieved (Anderson and Gerbing 1988, p.416; Bagozzi, Yi, and Phillips 1991, p.434). However, some researchers argued that statistically significant factor loadings did not necessarily mean substantial factor loadings. As a result, other rule of thumb cut-off criteria have been mentioned in the literature: (i) >.40 (Ding, Velicer, and Harlow 1995, p.126; Velicer, Peacock, and Jackson 1982, p.375), (ii) >.50 (Bagozzi and Yi 1988, p.82; Hildebrandt 1987, p.28), (iii) >.60 (Chin 1998b, p.xiii), or (iv) >.70 (Garver and Metnzer 1999, p.45). In summary, the factor loadings will have to reach at least .40 to be able to claim to achieve convergent validity.

Discriminant validity

Discriminant validity is the most important type of validity to be examined (Heeler and Ray 1972, p.362), and it represents the extent to which the construct is different (discriminant) from other constructs (Churchill 1979, p.70). To confirm discriminant validity, it involves a χ^2 difference test.

Discriminant validity can be assessed by a χ^2 difference test on the values obtained for the constrained and unconstrained models (Jöreskog 1971, p.117 and 121). The constrained model is built by a pair of constructs constraining the estimated correlation parameter (φ) between them to unity (1.0), while maintaining correlation parameter of the unconstrained model freely estimated. This test is performed for one pair of constructs at a time (Anderson and Gerbing 1988, p.416). "To determine if the chi-square difference test is statistically significant, take the difference scores for the chi-square value and degrees of freedom and compare these values to a chi-square table (Garver and Metnzer 1999, p.46)." A significantly lower χ^2 value for the unconstrained model indicates discriminant validity is achieved (Bagozzi and Phillips 1982, p.476).

Nomological validity

Nomological validity is determined by the extent to which the theoretical constructs relate to other hypothesised theoretical constructs (Cronbach and Meehl 1955, p.290). Evidence of nomological validity includes antecedent causes and consequential effects (Sternthal, Tybout, and Calder 1987, p.117). Thus, "Nomological (law-like) validity is based on the explicit investigation of constructs and measures in terms of formal hypothesis derived from theory (Mitchell 1996, p.205)." The discussion of the methods for testing hypotheses will now follow.

6.5.3 Tests of hypotheses

Three main methods were used to conduct hypothesis testing, namely, structural equation modelling (SEM), analysis of variance (ANOVA) and analysis of covariance (ANCOVA), and regression analysis.

Preparation for hypothesis testing

Consumer-brand congruence index (Consumer-brand discrepancy)

The congruence of consumer and brand personality is based on the ordinary distance between two points. For example, the distance between two points P=p1, p2, p3 … pn and Q=q1, q2, q3 … qn is calculated as $\sqrt{(p_1 - q_1)^2 + (p_2 - q_2)^2 + ... + (p_n - q_n)^2}$.

The calculation of the congruence index followed two steps. First, a summated scale was established on the basis of each dimension of consumer and brand personality separately. These dimensions were extraversion, agreeableness, conscientiousness, neuroticism, and openness to new experiences. Secondly, the difference between consumer and brand personality for each dimension was calculated by the ordinary distance discussed in the previous paragraph. Thus, consumer-brand congruence index equals to $\sqrt{\sum_{i=1}^{5}(CP_i - BP_i)^2}$, where CP indicates consumer personality, BP indicates brand personality, and *i* indicates the dimensions of consumer personality and brand personality (1=extraversion, 2=agreeableness, 3=conscientiousness, 4=neuroticism, and 5=openness to new experiences). As a result, a great consumer-brand congruence index indicates a high discrepancy between the consumer and brand. In order to avoid confusion, the consumer-brand congruence index will be reported as consumer-brand discrepancy, given a high score indicating a high level of discrepancy between the respondents and the brands.

Summated scales

Summated scales were formed by the average scores of the measurement items of each theoretical construct (Spector 1992, p.10-12). In order to perform ANOVA, ANCOVA, and regression analysis, several summated scales were needed. These summated scales included the five dimensions of consumer personality and brand personality, the seven dimensions of brand relationship quality, and the level of imagination with regard to brand personality and brand relationship.

Structural equation modelling (SEM)

The measurement models of consumer personality, brand personality, and brand relationship were validated by CFA, which is a form of SEM. Moreover, SEM was used to test hypotheses of the relationships between consumer personality and brand personality (H1, H2, and H3) and between consumer-brand discrepancy and brand relationship (H7). LISREL 8.54, a statistical software programme analysing covariance matrices, was used to conduct SEM.

What is SEM?

SEM, also referred to as causal modelling or analysis of covariance structures (Ullman 2006, p.35), is a statistical method that takes a confirmatory approach to estimate a series of separate, but interdependent, multiple regression equations simultaneously with the considerations of measurement errors of latent variables (Jöreskog 1979, p.45).

Because SEM is also referred to as causal modelling, the most frequently misunderstood capability of SEM is directionality. Directionality indicates the cause-effect associations between exogenous and endogenous variables. The path diagrams, generated by various SEM softwares (e.g. LISREL and AMOS), show directional arrows. These directional arrows are often interpreted as meaning that the directionality has been tested. However, SEM is unable to test the hypothesis of directionality (Hoyle 1995, p.10).

Like other multivariate data analysis methods (e.g. ANOVA and regression analysis), the results of SEM are valid only when the assumptions of linearity, multivariate normality, and independence of observations are met (Hoyle 1995, p.13). However, unlike other multivariate data analysis methods, SEM is capable of estimating and testing relationships between latent variables. That is, SEM takes measurement errors into account. Since the latent variables cannot be observed directly, the indicators used to reflect the meaning of these variables cannot provide error-free measurements in reality (Bagozzi 1980, p.86; Cliff 1983, p.115). By taking measurement errors into account, social and behavioural sciences can mirror reality more closely. Thus, SEM's ability to incorporate measurement errors in hypothesis testing (i.e. tests of structural relationships) is one of its key advantages.

Sample requirement for SEM

Compared with other multivariate data analysis methods, SEM requires a large sample size in order to generate reliable results. Several rules of thumb have been offered in the literature. Sample size changes according to the complication level of the SEM model: the more complicated the model, the larger the sample size required.

Thus, Bentler (1985) suggested a ratio of sample to number of free parameters to be estimated as 10:1 for data with arbitrary distributions (p.3), while Bentler and Chou (1987) indicated a ratio as 5:1 for data with normal distributions (p.91). However, some researchers argued that, no matter how simple a model is, a sample size of at least 200 should be maintained (Bearden, Sharma, and Teel 1982, p.429; Bentler and Yuan 1999, p.196; Boomsma 1985, p.241).

Steps of conducting SEM

Bollen and Long (1993) identified five steps of conducting SEM, namely, model specification, identification, estimation, testing fit, and respecification (p. 1-2). The first step is model specification, which operationalises the conceptual framework discussed in Chapter 6.4 by applying suitable indicators for each latent variable, which will be validated and purified in the stage of initial analysis (Chapter 7.3 and 7.4).

The second step is model identification, which examines whether a model has sufficient information to obtain at least a unique solution for the parameters to be estimated (Diamantopoulos and Siguaw 2000, p.48). When the number of pieces of information provided by the indicators is greater than the number of parameters to be estimated, the model is said to be identified and SEM is able to proceed. To determine if the model meets the minimum requirement for identification, the formula, $t \leq \frac{(p+q)(p+q+1)}{2}$, where t = the number of parameters to be estimated, p = the number of indicators of endogenous variables, and q = the number of indicators of exogenous variables, is used.

When the model is identified, SEM is able to estimate the parameters; that is the factor loadings (λ) of measurement models and regression coefficients (γ or β) of structural models. The main estimation methods include maximum likelihood (ML), generalised least squares (GLS), weighted least squares (WLS), and asymptotically distribution free (ADF) (Hair *et al.* 1998, p.606). WLS and ADF methods have the advantage that they make no assumptions concerning the distribution of the observed variables; however, they require more than 1,000 observations to generate robust results (Diamantopoulos and Siguaw 2000, p.57). Although ML and GLS were developed under the multivariate normality assumption, research has shown that they can perform quite well when the departure from normality is not substantial (e.g. $|\text{skewness}| < 2$ and $|\text{kurotsis}| < 7$) (West, Finch, and Curran 1995, p.74). However, ML generates relatively robust results against the normality violation, compared with GLS (Diamantopoulos and Siguaw 2000, p.57), and it is the most commonly used approach (Chou and Bentler 1995, p.38). Therefore, under the condition with no substantial violation to normality, ML is the preferred estimation method.

The fourth step is testing fit. After the SEM model is estimated, standardised coefficients (λ, γ, or β), *t*-values, and various fit indices will be generated. Testing fit is to assess whether the estimations of the parameters are reliable by evaluating various model fit indices. However, over reliance on model fit indices can be dangerous. This is because the rule of thumb cut-off criteria of fit indices are arbitrary (Hu and Bentler 1999, p.10) and because model fit indices merely represent how well the parameter estimates are able to match the sample covariances (Chin 1998b, p.xiii). In other words, they indicate how precisely the model under study predicts the proposed theory. Therefore, good model fit indices cannot be inferred as the usefulness of a model (Browne and Cudeck 1992, p.253) or the predictability of the variables (Chin 1998b, p.xiii). It is cautioned that a good model selection involves a subjective process that uses judgement; that is (i) to evaluate effect sizes (i.e. the strength of the relationships, such as λ, γ, and β) (Cohen 1990, p.1309), and (ii) to provide some flexibility when necessary (for example, a model with TLI=.88 was accepted in the review of Steenkamp and van Trijp (1991, p.294), when the cut-off criterion of TLI is greater than .90).

There are two types of model fit indices, namely, stand-alone fit indices and incremental fit indices. The stand-alone fit indices, also called as absolute fit indices, evaluate models based on absolute sense, whereas the incremental indices compare the proposed model with its baseline model, which is a single-factor model with no measurement error (Hair *et al.* 1998, p.621-p.622). A few model fit indices mixed with stand-along and incremental fit indices are often used to determine whether to accept or reject a model.

The popular stand-alone fit indices include χ^2, SRMR, RMSEA, GFI, AGFI (refer to Appendix 8 for the full names of all abbreviations). In addition, the frequently reported incremental indices include NFI, IFI (also called as RFI), and TLI (also called as NNFI). However, Hu and Bentler (1998) suggested evaluation of at least two indices; one of which should be SRMR (p.447). The other indices to be reported can be TLI, CFI, or RMSEA. Reporting these three fit indices was also supported by Garver and Metnzer (1999, p.41). To follow this guideline, the model fit indices of χ^2, SRMR, RMSEA, TLI, and CFI will be reported in data analysis.

χ^2, also called as χ^2 goodness-fit, tests the hypothesis that the specified model provides a perfect fit within the limits of sampling error. To meet the fit criterion, the obtained χ^2 value should be smaller than $\chi^2_{critical}$. χ^2 goodness-fit is the most traditional and most reported goodness-fit index (Baumgartner and Homburg 1996, p.150). However, it has been proved to be sensitive to sample size and not an appropriate index to evaluate a model (Bentler and Bonett 1980, p.604). Even so, reporting this index is considered necessary. The role of χ^2 is not to determine the model fit *per se*. Instead, it can be used to determine which models are better on the basis of χ^2 difference tests.

SRMR measures the average size of residuals between the fitted and sample covariance matrices. Hu and Bentler (1998) encouraged the use of SRMR because it is very sensitive to model misspecification, but not sensitive to estimation method or sample size. Moreover, it is relatively robust against violation to multivariate normality. When a correlation matrix is analysed, SRMR is standardised to fall between the interval 0 and 1. It represents the badness-of-fit, depending on the size or residuals. Thus, a small SRMR indicates a good fit. A cut-off value close to .08 is recommended (Hu and Bentler 1999, p.1).

RMSEA estimates how well the fitted model approximates the population covariance matrix per degree of freedom. Similar to SRMR, it is badness-of-fit index, so the smaller the RMSEA is, the better the model fits. According to Browne and Cudeck (1992), an RMSEA value exceeding .10 is an indication of poor fit (p.239). Thus, the cut-off point is suggested to be below .10 (Browne and Cudeck 1992, p.239; MacCallum, Browne, and Sugawara 1996, p.134). There are two main advantages of applying RMSEA. According to Hu and Bentler (1998), RMSEA is adequately sensitive to model misspecification (p.446-447). Secondly, unlike other fit indices, RMSEA is able to generate a 90% confidence interval, which provides information about precision of the estimate of fit (MacCallum and Austin 2000, p.219).

Both TLI (or NNFI) and CFI estimate the proportionate improvement in fit when the model moves from the baseline to the hypothesised model. However, while TLI adjusts for model parsimony by degree of freedom, CFI does not. A cut-off value close to or above .90 has been widely accepted (Hoyle 1995, p.7).

The final step of SEM is respecification, which is often done by the aid of the modification indices generated by SEM software. The modification indices indicate possible new or redundant parameters by calculating each non-estimated relationship in the model. Respecification refers to modification of model specification by adding or deleting certain parameters in order to improve model fit or to test other hypotheses (Ullman 2006, p.46). However, the former type of respecification aiming to improve model fit is usually open for criticism (Cliff 1983, p.119-120). Researchers have cautioned that respecification can take place only when theoretical justification can be obtained (Diamantopoulos and Siguaw 2000, p. 102; Hair *et al.* 1998, p. 615); otherwise, such respecification is exploratory, rather than confirmatory (Ullman 2006, p.46), which violates the confirmatory assumption of SEM.

ANOVA and ANCOVA

A two-way ANOVA and ANCOVA were used to test the hypotheses of the effects of involvement and feeling with regard to consumer-brand discrepancy and brand relationship (H5 and H6). SPSS 15.0 was used to conduct ANOVA and ANCOVA analyses.

What are ANOVA and ANCOVA?

A two-way ANOVA indicates that the number of independent variables is two. It is used to uncover the main and interaction effects of categorical independent variables. A main effect is the direct effect of an independent variable on the dependent variable, while an interaction effect is the joint effect of two or more independent variables on the dependent variable. Similarly, ANCOVA is used to examine the main and interaction effects. However, ANCOVA is able to control the effects of other continuous variables (called the covariates) which relate to the dependent variable. Thus, the purpose of ANCOVA is to remove the effects of the variables which modify the hypothesised relationship (Tabachnick and Fidell 2007, p.204).

Sample requirement

Unlike SEM, ANOVA/ANCOVA does not require a large sample size. According to Hair *et al.* (1998), the rule of thumb minimum sample size required by this method is twenty observations per group (p.342).

Assumptions of conducting ANOVA and ANCOVA

There are three assumptions of ANOVA, namely, data independence, multivariate normality, and equal variance across groups. Independence is the most basic assumption of ANOVA (Hair *et al.* 1998, p.348). It is achieved by assigning each respondent to a single group. Multivariate normality explains that each variable and all linear combinations of the variables are normally distributed (Tabachnick and Fidell 2007, p.78). It can be evaluated by checking the normality, linearity, and homoscedasticity. The multivariate normality assumption has been discussed in Chapter 6.5.1 and will be examined in Chapter 7.3. Finally, ANVOA assumes equal variance across groups. Levene's test of homogeneity of variance is used to examine this assumption. If the *p*-value of Levene's test is greater than .05, the equality of group variances is met (Hair *et al.* 1998, p.359).

If ANCOVA is applied, an additional assumption needs to be examined. This assumption is the linear relationship between the covariates and the dependent variable. To examine the relationship between the covariates and the dependent variable, a regression model was performed. If a relationship is absent, ANOVA will be sufficient to test the hypotheses; otherwise, ANCOVA is used to control the effects of the covariates on the dependent variable.

Significance test

F-tests are used in ANOVA/ANCOVA to examine statistical significance. The significance level refers to alpha (α), which indicates the probability of rejecting the null hypothesis when it should be accepted. This probability also denotes a Type I error. A too-small value of alpha increases the risk of Type I error; however, a too-large value of alpha increases the risk of Type II error (β); that is, the probability of failing to reject the null hypothesis when it should be rejected. In order to balance Type I and Type II errors, power is examined.

Power, defined as (1-β), refers to the probability of accepting the true alternative hypothesis. It is determined by the significance level, sample size, and effect size. Effect size coefficients are the standardised measures of the strength of a relationship. Partial eta-squared is the most popular effect size measure for ANOVA/ANCOVA. It is interpreted as the percentage that prediction is improved by knowing the independent variables. Generally, effect sizes are small (Frazier, Tix, and Barron 2004, p.118). The effects of the independent variables are considered important even when only 1% of effect size is detected (McClelland and Judd 1993, p.377).

To increase power, the researcher can reduce significance level, increase the sample size, or increase the effect size. It is suggested that the criterion of the significance test is to reach a minimum power at .80, coupled with a significance level (α) below .05 (Cohen 1992, p.156).

Regression analysis

Regression analysis was used to examine the moderating effects of involvement and feeling with regard to the relationship between consumer-brand congruence and brand relationship (H4 and H8). Moderating variables are the variables (i.e. involvement and feeling) that influence the direction or strength of the relationship between an independent and a dependant variable (Baron and Kenny 1986, p.1174). SPSS 15.0 was used to perform regression analysis and, as suggested by Cohen and Cohen (1983, p.56), a *t*-test was used to compare regression coefficients in order to decide whether the moderating effects exist.

What is regression analysis?

Regression analysis is used to predict the dependent variable (i.e. brand relationship) by an independent variable (i.e. consumer-brand discrepancy). Given that there was one independent variable, a simple regression analysis was used, and the mathematical definition of a simple regression analysis reads:

$$Y = b_0 + b_1 * X \ ,$$

where Y = brand relationship,
b_0 = intercept,
b_1 = change in the level of brand relationship (Y) associated with a unit change in consumer-brand congruence (X) (this is called regression coefficient),
X = consumer-brand discrepancy.

Sample requirement

Similarly to ANOVA/ANCOVA, regression analysis does not require a large sample. According to Hair *et al.* (1998), the minimum sample size for a regression model is twenty (p.166).

Assumptions of regression analysis

The assumptions involved with regression analysis are normality, linearity of the dependent and independent variables, homogeneous variance, and independence of errors (Tabachnick and Fidell 2007, p.125-128). These assumptions are examined by residual plots, as discussed in Chapter 6.5.1.

Significance test

The significance test of regression models involves the F-tests and *t*-tests. The F-tests are used to test the significance of R^2, representing the variance explained by the whole model (i.e. model fit – how well the independent variable can explain the dependent variable). On the other hand, the *t*-tests are used to test the strength of influence of the independent variable on the dependent variable, denoted as regression coefficient. However, the focus of the regression analysis in the current research is to examine the moderating effects; that is, whether or not the hypothesised moderators (i.e. involvement and feeling) exist to influence the relationship between consumer-brand discrepancy and brand relationship. As a result, the significance test surrounded the comparison between regression coefficients. A *t*-test is used to examine the comparison and calculated as below (Cohen and Cohen 1983, p.56):

$$t = \frac{(b_1 - b_2)}{\sqrt{(SE_1 * SE_1) + (SE_2 * SE_2)}},$$

where b_1 and b_2 are the two unstandardised coefficients and SE_1 and SE_2 are the two standard errors of the two regression models to be compared.

6.6 Summary

This chapter discussed the philosophical foundation, critical realism, underlying the quantitative method the author selected. Justifications and research strategy for the quasi-experimental design were elaborated. Finally, measurement scales were selected, and plans for data analysis, including initial analysis, scale validation, and hypothesis testing, were presented.

On the basis of the research design detailed in this chapter, the study was carried out and data were collected. The next chapter is to validate the measurement scales and test the hypotheses by using various multivariate analyses, including SEM, ANOVA/ANCOVA, and regression analysis.

Chapter 7. Analysis of Data

7.1 Introduction

This chapter presents the results of data analysis, which include initial analysis (i.e. data overview and data cleaning), validation of the measurement models, and hypothesis testing. The overall results suggested that consumer and brand personality could be measured by the same measurement items with good validity and reliability. Although they could be measured by the same items, these two constructs remained distinct. This finding enabled the examination of the correlation between consumer personality and brand personality and the formation of a consumer-brand congruence index.

The respondents' personalities were found to strongly and positively relate to brand personality of either their favourite brands or their most frequently used brands on each of the Big Five dimensions; that is, extraversion, agreeableness, conscientiousness, neuroticism, and openness to new experiences. The analysis further revealed that a positive relationship existed between consumer-brand congruence and brand relationship. The more congruence between consumer and brand personality the respondents perceived, the better the brand relationship scored. However, this relationship was not moderated by the effects of involvement and feeling even when these effects were found to influence the level of consumer-brand congruence and brand relationship separately. These results indicated that the respondents used various brands and products to construct, maintain, or enhance their self-identities, although they perceived different levels of consumer-brand congruence and brand relationship for various products.

7.2 Response rate and non-response bias

A total number of 4,736 questionnaires were distributed to undergraduate students at the University of Warwick between February and November 2007. The students were asked to return the questionnaires within two weeks of receiving them. The final figure for returned questionnaires was 1,065. Thus, the average response rate was 23%. A summary of response rate is shown in Table 7-1.

Table 7-1 Response rates for the main data collection

	No. of Questionnaires Distributed	No. of Questionnaires Returned	Response Rate
In lectures	828	590	71%
Via pigeon holes	2,308	397	17%
Via departmental common rooms	1,600	78	5%
Overall	4,736	1,065	23%

The questionnaires were distributed through different channels and the response rates were different for each channel. There were three channels for questionnaire distribution. First, the questionnaires were distributed in lectures. The author used the break time to announce her data collection and encouraged the students to fill in and return the questionnaires on the spot. The questionnaires were distributed to various courses of the Warwick Business School and the Economics department. Via this method, the response rate was the highest, 71%.

Second, the questionnaires were distributed via the students' individual pigeon holes from where they collect necessary course materials. A leaflet of cash prizes was attached to the questionnaire to encourage the students to participate (Appendix 6). The respondents were instructed to bring back the questionnaires to their undergraduate offices upon completion. This method of data collection was used in the Warwick Engineering School, Psychology department, and Physics department. This same method was also used to distribute the questionnaires to the students living in two of the residence halls. Via residence halls, the questionnaires were returned to the residence tutors. Altogether, the response rate via pigeon holes was 17%.

Finally, the questionnaires were placed in the departmental common rooms where the students would take a break between lectures and held small group discussions. With the intention of promoting the data collection and encouraging them to take a copy of questionnaire and to fill it in, a poster was put up in the common rooms to announce the cash prizes for participating in the research. This poster contained the same content as the leaflet displayed in Appendix 6. A box of questionnaires was left on tables for those who were interested in participating in the research. Since, unlike the previous two methods, the poster and questionnaires could not reach the students in an individual way, the response rate of 5% was the lowest However, it is noted that because the questionnaires could not reach the potential respondents in an individual way, the response rate was only based on estimation, which may underestimate the true response rate.

Even though the 5% response rate from the questionnaire distribution channel of departmental common rooms may have been underestimated, the 17% response rate from distributing the questionnaires through the students' individual pigeon holes was considered moderate (Donald 1960, p.102). As a result, an examination of non-response bias was needed. Table 7-2 shows the comparison between the profile of the undergraduate students at Warwick University and the respondents' profile. The comparison suggests that the characteristics of the undergraduate students and the respondents were similar.

Table 7-2 A comparison of the population and respondent profiles

	Warwick Student Profile[NB1]	Respondent Profile
Nationality		
European students	**75%**	**77%**
British students	-	62%
Other European students	-	15%
Others (International students)	**25%**	**21%**
Item response missing[NB2]	-	2%
Course of study		
Social science	**37%**	**36%**
Business studies	-	25%
Other social studies	-	9%
Science	**42%**	**37%**
Arts	**21%**	**17%**
Dual degree[NB3]	-	9%
Item response missing[NB2]	-	1%

NB1: Warwick student profile was based on the University's information released on April 2007 (Warwick 2007b) and October 2007 (Warwick 2007a). The Warwick University profile website did not release information other than nationality and course of study. As a result, it was unable to examine other characteristics, such as gender, age, and ethnicity backgrounds.

NB2: Item response missing refers to respondents' failure to answering the question(s)

NB3: Various dual degrees are offered by the university but it was unclear which faculty the respondents were registered with. Thus, a discrepancy may be caused by dual degree students.

7.3 Initial analysis

Data cleaning

Of the 1,065 questionnaires collected, 273 questionnaires were for jeans, 279 for soft drinks, 259 for laptops, and 254 for washing-up liquids. However, not all questionnaires were valid samples because the procedure of data collection did not discriminate among undergraduate students on the basis of their age, nationality, and ethnicity.

Age (Helson and Soto 2005) and culture (McCrae and Terracciano 2005) are two important factors in the development of personality. In order to eliminate the variance from different age and cultural groups, the research focused on British Caucasians who had been living in the U.K. for over sixteen years and were in the age group of eighteen to twenty-four. Seventeen respondents failed to identify their nationalities. These respondents, together with non-British Caucasians, were excluded from the samples. A total number of 509 respondents were deleted. Of the 556 remaining British Caucasian respondents, fifteen respondents were eliminated because either their age was not between eighteen and twenty-four or they did not clarify their age. Finally, thirty-nine respondents were ruled out because they had not been living in the U.K. for over sixteen years. The remaining number was 502, and these 502 responses were put forward for further data cleaning procedures.

Missing value analysis

After ensuring that the data were correctly entered, missing value analysis was used to assess the appropriateness of the data (Tabachnick and Fidell 2007, p.60). However, prior to the missing value analysis, an inspection of the descriptive statistics discovered that twenty-one respondents either identified more than one favourite brand or failed to specify their favourite brands or most frequently used brands. The favourite brands were critical in that they were the source of the values the respondents anchored to assess brand personality and brand relationship. As a result, the missing or confusing (i.e. identification of more than one favourite brand) value of a ‘favourite brand’ rendered the responses of brand personality and brand relationship unreliable and invalid. These twenty-one respondents were then eliminated from further analysis.

A missing value analysis of all variables was conducted by different product groups (Tabachnick and Fidell 2007, p.106). The results showed that (i) about 1% of data were not provided by the respondents, (ii) each variable contained less than 3.5% of missing data, and (iii) about 85% of the missing data concentrated on thirteen respondents, who left out at least 65% of the questions in one of the three main constructs, namely, consumer personality, brand personality, and brand relationship. Consequently, prior to the analysis of missing values, these thirteen respondents were eliminated because they omitted too many questions when filling out the questionnaires (Hair *et al.* 1998, p.56). This removal resulted in a final number of 468 questionnaires to be analysed. Table 7-3 shows the breakdown of the respondent profile of the final dataset.

After the removal of these thirteen respondents, the number of missing values accounted for less than .2%. Moreover, Little’s MCAR tests did not discover any obvious pattern of the missing values ($p > .05$, ranging from .8 to 1). Thus, missing completely at random (MCAR) was inferred from the results (see p.166-168), which implied that the problem from missing values was not severe. Expectation maximization (EM) was performed to estimate and replace the missing values.

Table 7-3 The respondent profile of the Caucasian British samples after missing data analysis

Respondent Profile					
	Overall	Group 1: Jeans	Group 2: Soft drinks	Group 3: Laptop Computers	Group 4: Washing-up liquids
No. of returned questionnaires	468	112	116	114	126
No. of brands evaluated*	90	39	25	13	13
Gender					
Male	49%	40%	47%	47%	59%
Female	51%	60%	53%	53%	41%
Year of study					
1st year	34%	27%	35%	39%	35%
2nd year	25%	30%	25%	21%	23%
3rd year	32%	33%	32%	32%	30%
4th year and above	9%	10%	8%	8%	12%
Course (degree) of study					
Business studies	28%	24%	31%	30%	29%
Social science (business studies excluded)	9%	10%	10%	7%	10%
Science	34%	36%	30%	34%	37%
Arts and humanity	18%	20%	19%	17%	16%
Dual degree	11%	10%	10%	12%	8%

* The details of the brands evaluated are listed in Appendix 10.

Test of multivariate normality

Before assessing multivariate normality, the tests of normality were conducted via histograms, box plots, and skewness and kurtosis. The box plots showed that a total number of 85 outliers (of 60,840 cases) existed across 27 variables (of 130 variables). A visual examination of normality was performed and the histograms did not indicate any extreme distribution. A further examination of the skewness and kurtosis was conducted and found the skewness within the range of -2 and +2 (Heppner and Heppner 2004, p.238) and kurtosis within the range of -3 and +3 (Hair *et al.* 2007, p.321), indicating that the data were more or less normally distributed. The outliers did not seem to be serious and were retained for further analysis, as suggested by Hair *et al.* (1998) who said that an outlier should not be removed unless some evidence was presented to indicate that such an outlier was not representative of the population (p.66).

Finally, multivariate normality was assessed via the residual plots (see p.168). The residual plots were performed with the potential problematic variables; that is, the variables containing outliers. The residual dots in the plots were shown spread evenly along the zero line, so the violation of multivariate normality was not evident.

Test of multivariate outliers

Mahalanobis distance was applied to examine multivariate outliers. The largest value of Mahalanobis distance was 280.78, which generated a t-value of 2.16 ($t = {}^{280.78}\!/_{130}$, where 130 is the number of variables) ($t > 3.1$, $p < .001$) (a conservative criterion applied to Mahalanobis distance; see p.170). Therefore, the results did not discover any significant multivariate outliers.

7.4 Tests of scale validity

Scale validation ensures that the measurement models of the constructs are appropriate prior to hypothesis testing. It involves tests of scale reliability (i.e. Cronbach's α, composite reliability, squared multiple correlation, and AVE) and scale validity (i.e. unidimensionality, convergent validity, and discriminant validity). CFA is able to generate most relevant information for scale validation (Steenkamp and van Trijp 1991, p.284), such as composite reliability, individual item reliability, AVE, and other related information to assess unidimensionality, convergent validity, and discriminant validity (Chapter 6.5.2).

Therefore, CFA was used to validate the measurement models. CFA with Maximum Likelihood (ML) estimation was performed on the covariance matrices of the three groups under study, including consumer personality, brand personality, and brand relationship quality. It was performed on these three groups separately to ensure estimate-to-observation ratios. The number of parameters to be estimated for consumer personality, brand personality, and brand relationship finalised in Chapter 6.4 was 90 respectively. To maintain a minimum level of estimate-to-observation ratio (1:5) (Bentler and Chou 1987, p.91), a sample size greater than 450 was needed. Unidimensionality, reliability, and convergent validity will be discussed in Chapter 7.4.1, 7.4.2, and 7.4.3 by different measurement models.

7.4.1 Consumer personality

Even though the EFA of consumer personality showed reasonably good results (Table 7-6, p.206), CFA results revealed that the original measurement model of consumer personality was not adequate for further analysis because it had low factor loadings, serious cross loadings, strong correlated measurement errors, and unsatisfactory AVE.

The factor loadings in six out of forty items were below the cut-off point, .40 (Ding *et al.* 1995, p.126) and seventeen out of forty items showed that they loaded onto more than one variable. Moreover, the modification indices showed that some measurement errors were strongly correlated. The strongest index was 237.53 between HP17 (organized) and HP20 (practical), far above the significant level 3.84. Although composite reliability (>.70) and Cronbach's α (>.75) were satisfactory, all AVE values were less than the cut-off criterion, .50 (Fornell and Larcker 1981, p.46). Consequently, some of the model fit indices were far below the acceptable levels (χ^2=3662.49, df=730, *p*<.01; SRMR=.091; RMESA=.093, 90% C.I.: [.090, .096]; TLI=.78; CFI=.82). The disappointing model fit indices were consistent with what Mooradian and Nezlek (1996) reported (p.214).

The original measurement model was then subjected to modification according to the sizes of factor loadings, cross loadings, measurement errors, and correlation between measurement errors. The items were dropped one by one to ensure that the deletion of each item was necessary. A total number of twenty-one items was removed, which left the new model nineteen items (Table 7-4).

The examination of unidimensionality, reliability, convergent validity, and discriminant validity showed that the criteria were met. The modification indices indicated that unidimensionality of the modified model was achieved because no serious cross loading was detected. Moreover, various reliability measures (Cronbach's alphas, squared multiple correlation, composite reliability, and AVE) appeared to be adequate (Table 7-4).

Table 7-4 CFA results for consumer personality

	Standardised Factor Loadings	T-values[1]	R-Squared[2]	Composite Reliability	AVE	Cronbach's α (Cronbach's α with the original items)
Extraversion				.82	.53	.82
Extraverted	.68	-	.46			(.84)
Shy(R)	.77	13.79	.59			
Quiet(R)	.84	14.31	.71			
Withdrawn(R)	.61	11.49	.38			
Agreeableness				.79	.49	.77
Sympathetic	.60	-	.36			(.83)
Warm	.81	12.12	.65			
Kind	.83	12.15	.69			
Cooperative	.50	8.87	.25			
Conscientiousness				.83	.55	.82
Organized	.68	-				(.86)
Efficient	.90	15.30	.82			
Systematic	.60	11.75	.36			
Inefficient(R)	.75	14.20	.56			
Neuroticism				.75	.51	.73
Jealous	.86	-	.75			(.78)
Temperamental	.49	8.81	.24			
Envious	.74	10.42	.54			
Openness to experience				.84	.58	.82
Creative	.86	-				(.80)
Imaginative	.79	19.25	.62			
Uncreative(R)	.86	20.98	.74			
Intellectual	.45	9.75	.21			

1. The first variable of each dimension was a reference variable; therefore, t-values can not be calculated for those variables.
2. R-Squared is also termed squared multiple correlation.

(R) = reverse-coded

Model fit indices: χ^2=404.02, df=142, *p*<.01; SRMR=.063; RMSEA=.063, 90% C.I. [.056, .070]; TLI=.92; CFI=.94

Even though Cronbach's alphas usually decrease with the decreased in number of the items included (Nunnally and Bernstein 1994, p.230), the new Cronbach's alphas remained quite similar with the values of the original model. They are all above the acceptable rule of thumb, .70 (ibid, p.265). Composite reliability and AVE were all above or close to the cut-off values, .60 (Bagozzi and Yi 1988, p.80) and .50 (Fornell and Larcker 1981, p.46).

Convergent validity was assessed by inspecting the sizes of the factor loadings, which ranged from .45 to .90. This result confirmed convergent validity, according to Ding *et al.*'s (1995) cut-off criterion (.40). The assessment of convergent validity was followed by the examination of discriminant validity. The χ^2 difference tests were applied to determine discriminant validity. Table 7-5 shows that discriminant validity among all consumer personality dimensions was achieved. Finally, various model fit indices showed a significant improvement from the original model (χ^2=404.02, df=142, p<.01; SRMR=.063; RMSEA=.063, 90% C.I.: [.056, .070]; TLI=.92; CFI=.94).

Table 7-5 Evidence for discriminant validity of consumer personality

Pair of Constructs of Consumer Personality	**Unconstrained Model**		**Constrained Model**		**χ^2 difference test***	
	χ^2	df	χ^2	df	χ^2	df
(1) HPE – HPA	85.88	19	228.78	20	142.90	1
(2) HPE – HPC	73.42	19	196.57	20	123.15	1
(3) HPE – HPN	33.69	13	175.59	14	141.90	1
(4) HPE – HPO	59.59	19	177.05	20	117.46	1
(5) HPA – HPC	63.69	19	203.68	20	139.99	1
(6) HPA – HPN	48.66	13	221.19	14	172.53	1
(7) HPA – HPO	66.07	19	198.62	20	132.55	1
(8) HPC – HPN	22.30	13	158.64	14	136.34	1
(9) HPC – HPO	97.80	19	213.75	20	115.95	1
(10) HPN – HPO	36.77	13	181.90	14	145.13	1

*When $\chi^2_{df=1}$ > 6.63, p < .01
HPE: Extraversion (Consumer Personality); HPA: Agreeableness (Consumer Personality);
HPC: Conscientiousness (Consumer Personality); HPN: Neuroticism (Consumer Personality)
HPO: Openness to experience (Consumer Personality)

7.4.2 Brand personality

The measures of brand personality were borrowed from the human personality inventory, which is termed 'consumer personality' in this thesis. Since this inventory has not yet been used on brands, prior to CFA analysis, it was necessary to conduct an exploratory factor analysis (EFA) to examine whether the initial dimensionality resembled that of consumer personality. For comparison purposes, consumer personality was rendered for EFA at the same time. The results are displayed in Table 7-6.

EFA results of consumer personality showed a clear five-factor model, as expected. Although EFA results of brand personality were not as clear-cut as those of consumer personality, the main dimensionality was acceptable. The results contained four cross loadings (i.e. sloppy, careless, harsh, and rude). The factor loading of the item 'unenvious', was below .40, and the item 'relaxed' was loaded on a different factor. Therefore, these six items were removed.

The remaining thirty-four items were submitted to CFA. Although the factor loadings (> .45), composite reliability (> .80), and AVE (> .35) showed that this brand personality model was better than the original consumer personality model (see p.201-202), the model fit indices revealed that the model was not properly fitted to the sample covariance (χ^2=5456.27, df=655, p<.01; SRMR=.10; RMSEA=.125, 90% C.I.: [.12, .13]; TLI=.87; CFI=.87). Furthermore, modification indices discovered that cross loadings were serious and correlations between measurement errors were strong. Twenty-seven cross loadings with modification indices above 10 (modification indices > 3.84, p<.01) were found. Although correlations between measurement errors were less serious than those of consumer personality (the strongest was 109.40, compared with that of consumer personality, 237.53), the presence of these correlations implied some of the items were not suitable. To improve the measurement model of brand personality, these items were then surrendered for modification.

Table 7-6 A comparison of EFA results between consumer personality and brand personality

	Consumer Personality					Brand Personality				
	1	2	3	4	5	1	2	3	4	5
Quiet(R)	.822					.799				
Extraverted	.793					.806				
Shy(R)	.762					.786				
Talkative	.722					711				
Withdrawn(R)	.689					.732				
Bold	.637					.775				
Energetic	.523					.727				
Bashful(R)	.469					.644				
Efficient		.818					.838			
Organized		.812					.778			
Disorganized(R)		.808					.751			
Inefficient(R)		.750					.678		.	
Systematic		.709					.836			
Sloppy(R)		.708					**.626**		**.461**	
Careless(R)		.510					**.597**		**.461**	
Practical		.418					.609			
Unsympathetic(R)			.762					.677		
Warm			.734					.786		
Kind			.719					.818		
Sympathetic			.694					.726		
Cold(R)			.655					.663		
Harsh(R)			.619					**.560**	**.494**	
Rude(R)			.564					**.557**	**.464**	
Cooperative			.487					.556		
Jealous				.737					-.747	
Envious				.691					-.767	
Temperamental				.684					-.734	
Moody				.670					-.697	
Touchy				.562					-.641	
Unenvious(R)				.535						
Fretful				.531					-.625	
Relaxed (R)				.467				**-.462**		
Imaginative					.714	.				.648
Creative					.702	.				.601
Uncreative (R)					.658					.485
Unintellectual(R)					.628					.569
Philosophical					.627					.715
Intellectual					.553					.716
Complex					.573					.677
Deep					.586					.712

(R) = reverse-coded
Extraction Method: Principal Component analysis with Varimax rotation
Factor 1: Extraversion; Factor 2: Conscientiousness; Factor 3: Agreeableness; Factor 4: Neuroticism; Factor 5: Openness to experience
KMOs, measuring of sampling adequacy for both brand personality and human personality, are higher than satisfactory (.88 for brand personality and .81 for human personality).
Average variance extracted: .49 (human personality) and .57 (brand personality)
Factor loadings are displayed if exceeding .40

Similarly to the modification of the consumer personality model, that of brand personality was based on the sizes of cross loadings and the correlation between measurement errors. The items were dropped one by one to ensure that the removal was necessary. This modification removed fifteen items. Together with the removal of the six items at the EFA stage, this process resulted in the final model of nineteen items, which are shown in Table 7-7.

Table 7-7 CFA results for brand personality

	Standardised Factor Loadings	T-values[1]	R-Squared[2]	Composite Reliability	AVE	Cronbach's α (Cronbach's α with the original items)
Extraversion				.85	.59	.85
Extraverted	.65	-	.42			(.90)
Quiet[(R)]	.83	14.25	.68			
Shy[(R)]	.84	14.34	.70			
Withdrawn[(R)]	.76	13.41	.57			
Agreeableness				.85	.60	.85
Sympathetic	.71	-	.51			(.88)
Warm	.76	15.22	.58			
Kind	.89	16.97	.80			
Cooperative	.71	14.15	.50			
Conscientiousness				.87	.64	.86
Organized	.79	-	.63			(.90)
Efficient	.91	21.66	.82			
Systematic	.88	21.10	.77			
Inefficient[(R)]	.57	12.43	.32			
Neuroticism				.83	.62	.83
Jealous	.83	-	.69			(.79)
Temperamental	.69	14.68	.48			
Envious	.83	16.38	.68			
Openness to experience				.81	.52	.80
Creative	.85	-	.73			(.83)
Imaginative	.81	17.75	.65			
Uncreative[(R)]	.70	15.42	.49			
Intellectual	.47	9.95	.22			

1. The first variable of each dimension was a reference variable; therefore, t-values could not be calculated for those variables.
2. R-Squared is also termed squared multiple correlation.

(R) = reversed-coded

Model fit indices: χ^2=717.47, df=142, *p*<.10; SRMR=.088; RMSEA=.093, 90% C.I.: [.86, 1.00]; TLI=.90; CFI=.92

Unidimensionality, reliability, convergent validity, and discriminant validity were evident. Modification indices did not reveal serious cross loadings. Thus, unidimensionality was confirmed. Various reliability measures (Cronbach's alphas, squared multiple correlation, composite reliability, and AVE) and convergent validity were assessed by the results displayed in Table 7-7. The reliability measures appeared to be above the satisfactory levels (Cronbach's alphas > .80, AVE > .50, composite reliability > .80). The factor loadings (ranging from .47 to .91) showed good convergent validity. Moreover, the examination of discriminant validity was carried out and the results are shown in Table 7-8. Significant χ^2 differences between all the brand personality dimensions indicated that discriminant validity was met. Finally, various model fit indices showed a significant improvement from the original model (χ^2=717.47, df=142, p<.01; SRMR=.088; RMSEA=.093, 90% C.I.: [.86, 1.00]; TLI=.90; CFI=.92). The finalised measurement model of brand personality exactly resembled that of consumer personality.

Table 7-8 Evidence for discriminant validity of brand personality

Pair of Constructs of Brand Personality	**Unconstrained Model**		**Constrained Model**		**χ^2 difference test***	
	χ^2	df	χ^2	df	χ^2	df
(1) BPE – BPA	84.95	19	214.26	20	129.31	1
(2) BPE – BPC	78.27	19	199.22	20	120.95	1
(3) BPE – BPN	46.53	13	195.77	14	149.24	1
(4) BPE – BPO	157.55	19	236.59	20	79.04	1
(5) BPA – BPC	122.92	19	193.90	20	70.98	1
(6) BPA – BPN	33.19	13	203.70	20	170.51	1
(7) BPA – BPO	168.70	19	256.42	20	87.72	1
(8) BPC – BPN	87.24	13	230.56	14	143.32	1
(9) BPC – BPO	236.89	19	329.78	20	92.89	1
(10) BPN – BPO	195.49	13	322.59	14	127.10	1

*When $\chi^2_{df=1}$ > 6.63, p < .01
BPE: Extraversion (Brand); BPA: Agreeableness (Brand); BPC: Conscientiousness (Brand);
BPN: Neuroticism (Brand); BPO: Openness to experience (Brand)

7.4.3 Brand relationship

The validation process for the scale of brand relationship quality was slightly different from those of consumer and brand personality discussed in the previous two sections. Because of potential problems detected during content validation procedure (Chapter 6.4.2), special care was taken to deal with the dimensions of behavioural interdependence, personal commitment, and love and passion prior to verifying the measurement model of brand relationship as a whole. Two additional actions were carried out; that is, to verify the concerns of the speculations on the problematic dimensions by one EFA and two CFAs.

EFA of brand relationship

To ensure the assumptions regarding the problematic dimensions of brand relationship (i.e. trust, behavioural interdependence, personal commitment, and love and passion) discussed in Chapter 6.4.2, all forty-two items were factor analysed by EFA, which resulted in seven dimensions. Cross-loadings were not serious; four out of forty-two items loaded onto more than one factor. However, EFA revealed three main problems. First, partner quality as a brand could not be distinguished from that as a consumer. Conceptually, however, they should represent two constructs. Thus, it was suggested to focus on partner quality as a brand as Fournier (1998) had done, and remove the items of partner quality as a consumer. Secondly, the items of trust were blended into partner quality and behavioural interdependence, as expected (Chapter 6.4.2, p.163-164). Thus, these three items were terminated. Finally, the dimensions of behavioural dependence, personal commitment, and love and passion did not seem to have three clear and separate factors as expected (see the factors in the boxes in Table 7-9).

Although EFA is data driven, rather than theory driven, the disappointing EFA results may indicate that some of the measurement items were not proper and should be approached with caution. Thus, a sub-construct (called emotional bonding) was established to include these three dimensions and submitted for CFA before examining the scale of brand relationship quality as a whole.

Table 7-9 EFA results of brand relationship

	Component						
	1	2	3	4	5	6	7
PQ2	.801						
PQ5	.769						
PQ3	.768						
PQ4	.754						
PQ1	.723						
PQ8	.628						
PQ7	.552						
T1	**.528**		**.408**				
PQ9	.520		.471				
T3							
BI2		.672					
BI1		.671					
PC2		.658					
BI3		.613					
PC4		.599					
PC3		.572					
BI5		.547					
PQ6			.667				
BI4			.648				
BI7			.563				
PC1		.481	.560				
LP1			.539				
LP2			.529				
T2			**.501**				
BI6		.450	.487				
NC3				.787			
NC4				.748			
NC2				.707			
NC1				.678			
NC5				.609			
I2					.858		
I1					.785		
I3					.745		
I4					.651		
I5					.512		
SC3						.766	
SC2						.739	
SC4						.706	
SC1						.579	
SC5						.471	
LP4							.812
LP3							.514

Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization; AVE: 67%; KMO adequacy: .954, Bartlett's Test of Sphericity: p=.000
Factor loadings are listed only when exceeding .40
PQ – Partner quality; BI – Behavioural Interdependence; LP – Love and passion; PC – Personal Commitment; NC – Nostalgic Connection; I – Intimacy; SC – Self-concept Connection (Appendix 11).

The examination of emotional bonding dimensions – behavioural interdependence, personal commitment, and love and passion

The fifteen items of emotional bonding were put into CFA according to Fournier's (1994) and Park *el al.*'s (2002) assignment to the correspondent dimensions. Although the CFA results showed that the factor loadings were all well above the cut-off point, .40 (Ding *et al.* 1995, p.126), serious cross loadings from modification indices supported the speculation posed in Chapter 6.4.2. Consequently, a poor model fit was presented (χ^2=609.89, df=88, p<.01; SRMR=.18; RMSEA=.113, 90% C.I.: [.10, .12]; TLI=.94; CFI=.95).

After removing the ambiguous items shown in Table 6-1 (p.162), CFA was performed on the remaining items. Two different CFA models were conducted. One was based on the assumption in Chapter 6.4.2 that three separate dimensions could be identified by proper measurement items. The other was based on Park *et al.*'s proposal that these three dimensions should be combined as a one-factor model since it is difficult to separate them operationally. The results are displayed in Table 7-10.

Table 7-10 CFA results for emotional bonding dimensions

	Standardised Factor Loadings	T-values[1]	R-Squared[2]	Composite Reliability	AVE	Cronbach's α (Cronbach's α with the original items)
<u>**Model 1: A 2nd order model with 3 first order factors**</u>						
Behavioural interdependence				.85	.65	.84
BR1	.83	-	.53			(.84)
BR2	.89	21.64	.60			
BR3	.69	15.95	.44			
Personal Commitment				.84	.57	.84
BR5	.76	-	.55			(.85)
BR6	.81	17.68	.57			
BR7	.80	17.49	.58			
BR8	.63	13.39	.37			
Love and passion				.81	.59	.81
BR13	.81	-	.55			(.88)
BR14	.76	16.66	.47			
BR15	.74	16.32	.45			
Model fit indices – χ^2=72.27, df=32, *p*<.01; SRMR=.029; RMSEA=.052, 90% C.I.: [.036, .068]; TLI=.99; CFI=.99						
<u>**Model 2: A one factor model**</u>						
BR1	.73	-	.53	.91	.51	.94
BR2	.78	16.41	.60			(.94)
BR3	.67	13.99	.44			
BR5	.74	15.73	.55			
BR6	.76	16.00	.57			
BR7	.76	16.08	.58			
BR8	.61	12.75	.37			
BR13	.74	15.71	.55			
BR14	.69	14.47	.47			
BR15	.67	14.16	.45			
Model fit indices – χ^2=324.56, df=35, *p*<.01; SRMR=.052; RMSEA=.133, 90% C.I.: [.12, .15]; TLI=.94; CFI=.95						

1. The first variable of each dimension was a reference variable; therefore, t-values could not be calculated for those variables.
2. R-Squared is also termed squared multiple correlation.

NB: The coding scheme is shown in Appendix 11.

The first model was a second-order model and appeared to fit well without cross loadings and problematic correlations among measurement errors (χ^2=72.27, df=32, *p*<.01; SRMR=.029; RMSEA=.052, 90% C.I.: [.036, .068]; TLI=.99;

CFI=.99). On the other hand, the second CFA model (the one-factor model) displayed an unsatisfactory fit (χ^2=324.56, df=35, p<.01; SRMR=.052; RMSEA=.133, 90% C.I.: [.12, .15]; TLI=.94; CFI=.95). Model modification indices uncovered the main problem of the poor model fit to be the strongly correlated measurement errors. Adequate factor loadings with strongly correlated measurement errors confirmed that more than one-factor is needed to improve the model fit (Gerbing and Anderson 1984, p.576). A further analysis of χ^2 difference confirmed that the three factors were distinctively different from one another (Table 7-11). Hence, the three emotional bonding dimensions were shown to be operationable.

Table 7-11 Evidence of discriminant validity for the emotional bonding dimensions

Pair of Constructs of Consumer Personality	**Unconstrained Model**		**Constrained Model**		**χ^2 difference test***	
	χ^2	df	χ^2	df	χ^2	df
(1) BI – PC	30.23	13	37.67	14	7.44	1
(2) BI – LP	10.27	8	17.85	9	7.58	1
(3) PC – LP	43.25	13	48.50	14	5.25	1

*$\chi^2_{df=1}$ > 6.63, p < .01; $\chi^2_{df=1}$ > 5.02, p < .025
BI: Behavioural Interdependence; PC: Personal Commitment; LP: Love and passion

The examination of brand relationship quality scale

A CFA was conducted on the purified items of emotional bonding dimensions with the other dimensions of brand relationship quality (i.e. intimacy, self-concept connection, nostalgic connection, and partner quality). These thirty items generated a seven-factor structure with a good model fit (χ^2=1301.91, df=384, p<.01; SRMR=.055; RMSEA=.072, 90% C.I.: [.067, .076]; TLI=.97; CFI=.98). However, a close examination of unidimensionality discovered that many variables presented cross loadings and some measurement errors were strongly correlated. For example, a modification index as high as 123.21 existed between the measurement errors of BR31 ("I know this brand really appreciates me") and BR32 ("I know this brand respects me"). Even though the model fit indices were above the cut-off criteria, the cross loadings and correlated measurement errors implied that the measurement model could be further purified. Thus, purification of the model proceeded.

Similarly to the modification of consumer personality and brand personality, the purification procedure followed the sizes of cross loadings and measurement error correlations. The items were dropped one by one to ensure that the deletion was essential. This procedure resulted in a deletion of twelve items. The number of the remaining items of brand relationship was twenty-two, and the CFA result is displayed in Table 7-12.

Table 7-12 CFA results of brand relationship quality – a second order model

	Standardised Factor Loadings	T-values[1]	R-Squared[2]	Composite Reliability	AVE	Cronbach's α (Cronbach's α with the original items)
Brand relationship quality				**.91**	**.61**	**.94**
Behavioural Interdependence	**.83**	**16.57**	**.68**	**.85**	**.66**	**.84**
BR1	.83	-	.69			(.84)
BR2	.90	21.84	.81			
BR3	.69	15.92	.47			
Personal Commitment	**.90**	**16.49**	**.80**	**.84**	**.57**	**.84**
BR5	.76	-	.58			(.85)
BR6	.81	17.44	.65			
BR7	.81	17.57	.66			
BR8	.63	13.47	.40			
Love and passion	**.92**	**17.80**	**.84**	**.81**	**.59**	**.84**
BR13	.80	-	.64			(..85)
BR14	.77	17.19	.59			
BR15	.74	16.44	.55			
Intimacy	**.70**	**13.53**	**.50**	**.83**	**.62**	**.81**
BR16	.82	-	.66			(.88)
BR18	.83	17.90	.70			
BR19	.71	15.55	.51			
Self-concept Connection	**.77**	**15.42**	**.59**	**.88**	**.71**	**.88**
BR22	.83	-	.69			(.89)
BR23	.86	21.24	.74			
BR24	.84	20.78	.71			
Nostalgic Connection	**.59**	**10.29**	**.35**	**.78**	**.64**	**.78**
BR28	.80	-	.64			(.85)
BR29	.80	11.43	.65			
Partner Quality	**.71**	**14.27**	**.51**	**.91**	**.73**	**.91**
BR32	.81	-	.66			(.91)
BR33	.87	21.99	.76			
BR34	.87	21.78	.75			
BR35	.86	21.54	.74			

1. The first variable of each dimension was a reference variable; therefore, t-values could not be calculated for those variables.
2. R-Squared is also termed squared multiple correlation.

Model fit indices: χ^2=454.20, df=202, *p*<.01; SRMR=.042; RMSEA=.052, 90% C.I.: [.045, .058]; TLI=.99; CFI=.99

An inspection of modification indices, factor loadings, and measurement errors suggested that unidimensionality, reliability, convergent validity, and discriminant validity were achieved. No serious cross loading was obvious; thus, unidimensionality was confirmed. In addition, various reliability measures, including Cronbach's alphas, squared multiple correlation, composite reliability, and AVE, showed that this purified brand relationship quality scale was very reliable. All Cronbach's alphas were above or close to .80 (cut-off: >.70); AVE were above or close to .60 (cut-off: >.50); composite reliabilities were above or close to .80 (cut-off: >.60) (Table 6-3, p.173). Furthermore, convergent validity was also evident. All factor loadings were greater than .70, where the cut-off criterion was .40 (see p.177). In addition to convergent validity, discriminant validity (Table 7-13) was also apparent. Moreover, the model fit improved further by this purification process (χ^2=454.20, df=202, p<.01; SRMR.042; RMSEA=.052, 90% C.I.: [.045, .058]; TLI=.99; CFI=.99).

In summary, the measurement models of consumer personality, brand personality, and brand relationship were confirmed to achieve internal consistency (reliability), convergent validity, and discriminant validity. Moreover, discriminant validity was examined between the sub-constructs of the three main constructs (consumer personality, brand personality, and brand relationship) via χ^2 difference tests. The results suggested that they were all discriminant valid (Appendix 7). Thus, the constructs of consumer personality, brand personality, and brand relationship have been demonstrated to be legitimate for hypothesis testing.

Table 7-13 Evidence of discriminant validity of brand relationship

Pair of Constructs of Brand Personality	Unconstrained Model		Constrained Model		χ^2 difference test*	
	χ^2	df	χ^2	df	χ^2	df
(1) BI – PC	30.23	13	37.67	14	7.44	1
(2) BI – LP	10.27	8	17.85	9	7.58	1
(3) BI – I	17.79	8	36.69	9	18.90	1
(4) BI – SC	9.19	8	25.81	9	16.62	1
(5) BI – NC	4.58	4	21.68	5	17.10	1
(6) BI – PQ	3.73	13	64.13	14	30.40	1
(7) PC – LP	43.25	13	48.50	14	5.25	1
(8) PC – I	42.83	13	69.26	14	26.43	1
(9) PC – SC	27.52	13	49.92	14	22.40	1
(10) PC – NC	12.51	8	40.85	9	28.34	1
(11) PC – PQ	51.93	19	79.81	20	27.88	1
(12) LP – I	26.54	8	40.39	9	13.85	1
(13) LP – SC	25.23	8	38.77	9	13.54	1
(14) LP – NC	4.97	4	25.56	5	20.59	1
(15) LP – PQ	38.20	13	67.36	14	29.16	1
(16) I – SC	19.93	8	45.44	9	25.51	1
(17) I – NC	1.30	4	35.79	5	34.49	1
(18) I – PQ	55.26	13	84.26	14	29.00	1
(19) SC – NC	23.27	4	49.09	5	25.82	1
(20) SC – PQ	45.60	13	71.15	14	25.55	1
(21) NC – PQ	27.50	8	67.29	9	39.79	1

*When $\chi^2_{df=1} > 6.63$, $p < .01$

BI: Behavioural Interdependence; PC: Personal Commitment; LP: Love and passion; I: Intimacy; SC: Self-concept Connection; NC: Nostalgic Connection; PQ: Partner Quality

7.5 Test of hypotheses

7.5.1 The relationship between consumer and brand personality

Overall model

Hypothesis 1 stated that consumer and brand personality could be measured by the same items but represented two distinctive constructs. To examine this hypothesis, three sub-hypotheses were tested. First of all, it was hypothesised that consumer personality and brand personality could be measured by the same measurement items

(H1a). Secondly, it was put forward that the dimensionality of brand personality resembled that of human personality (H1b). The final sub-hypothesis proposed that consumer personality and brand personality were two distinct constructs. H1a and H1b were partially assessed and supported in Chapter 7.4.1 and Chapter 7.4.2 when verifying the measurement models of consumer and brand personality. Two CFA results confirmed that consumer personality and brand personality could be measured by the same items. Moreover, they were demonstrated as two distinctive constructs via the examinations of discriminant validity (Table7-14).

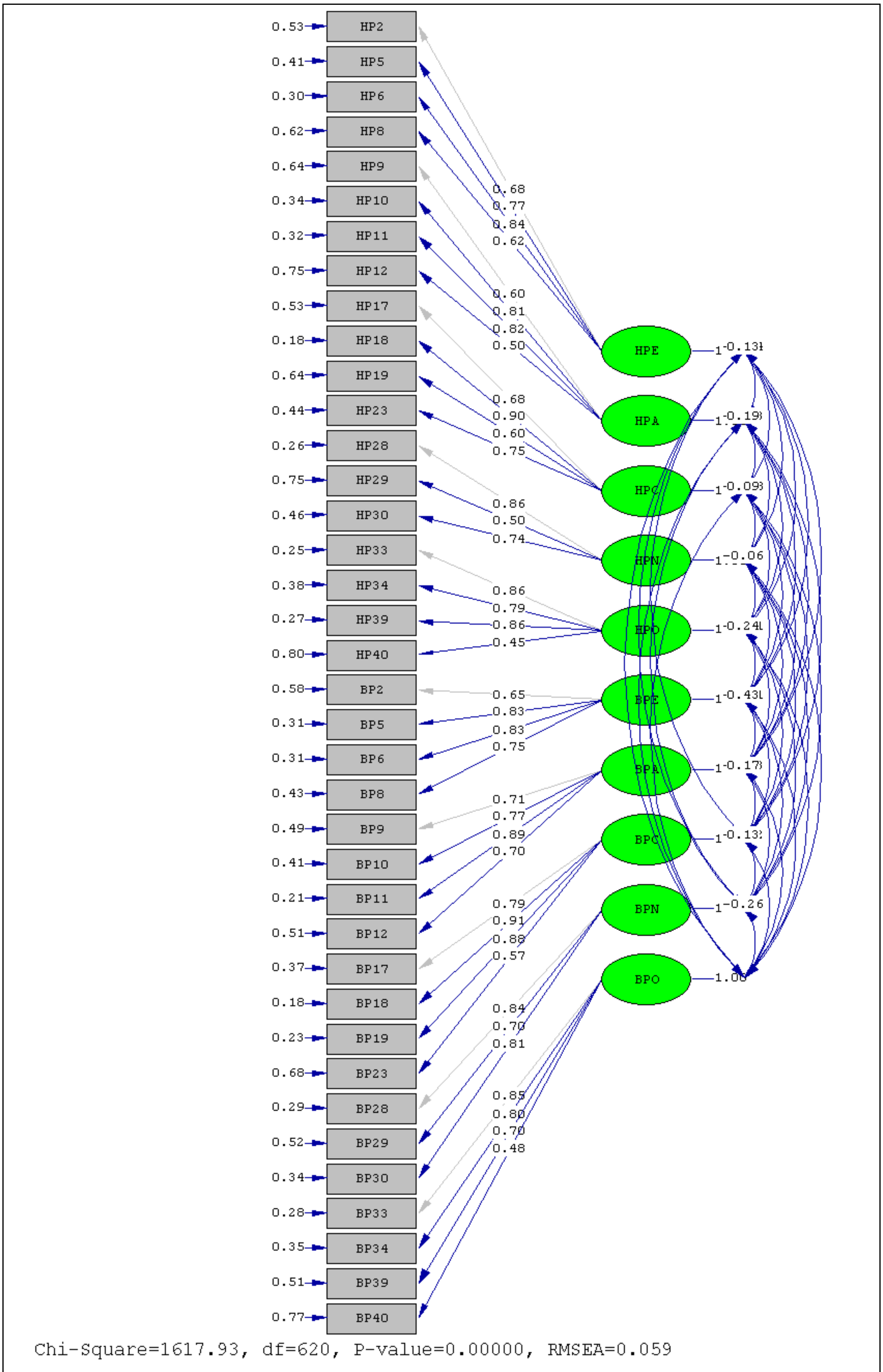
Table 7-14 Discriminant validity between consumer personality and brand personality (extracted from Appendix 7.1)

Pair of Constructs	Unconstrained Model		Constrained Model		χ^2 difference test*	
	χ^2	df	χ^2	df	χ^2	df
(1) HPE – BPE	49.90	19	176.34	20	126.44	1
(2) HPA – BPA	56.38	19	167.56	20	111.18	1
(3) HPC – BPC	58.28	19	160.13	20	101.85	1
(4) HPN – BPN	21.62	8	93.06	9	71.44	1
(5) HPO - BPO	174.07	19	252.29	20	78.22	1

*When $\chi^2_{df=1}$ > 6.63, p < .01
HPE: Extraversion (consumer personality); BPE: Extraversion (brand personality)
HPA: Agreeableness (consumer personality); BPA: Agreeableness (brand personality)
HPC: Conscientiousness (consumer personality); BPC: Conscientiousness (brand personality)
HPN: Neuroticism (consumer personality); BPN: Neuroticism (brand personality)
HPO: Openness to experience (consumer personality; BPO: Openness to experience (brand personality)

To examine this further, both brand personality and human personality items were input to the same CFA model. This CFA result was positive. The factor loadings, composite reliability, and AVE (Figure 7-1) were similar to those of the separate measurement models (Table 7-4, p.203 and Table 7-7, p.207). The various model fit indices were above the levels of acceptance (χ^2=1617.93, df=620, p<.01; SRMR=.065; RMSEA=.059, 90% C.I.: [.055, .062]; TLI=.92; CFI=.93). Thus, it was evident that consumer personality and brand personality could be measured by the same instrument. By using the same instrument, factor analyses resulted in the same dimensionality (Chapter 7.4.1 and Chapter 7.4.2). Even though they were measured by the same items, CFA and the assessment of discriminant validity confirmed that they were two distinct constructs. Thus, H1a, H1b, and H1c were strongly supported.

Figure 7-1 CFA model of consumer and brand personality – completely standardised solution



Hypothesis 2 (H2) proposed that the dimensions of brand personality were more interrelated than those of consumer personality. An inspection of the phi (φ) matrices between the constructs of consumer and brand personality was carried out to examine the relationship. Table 7-15 shows that this hypothesis was sustained. The interrelationship within brand personality was more obvious than in consumer personality both in terms of strength and number. Eight out of ten correlations of brand personality were significant at .01, and only one was insignificant. On the other hand, three of ten correlations of consumer personality were shown significant at .01, and five were insignificant. For example, while the magnitude of the relationship between extraversion and agreeableness was shown -.18 (p<.01) in brand personality, it was .08 (p>.05) in consumer personality. Moreover, the interrelationships of brand personality were stronger than the corresponding interrelationships of consumer personality (t=4.07, p<.05, 2-tailed).

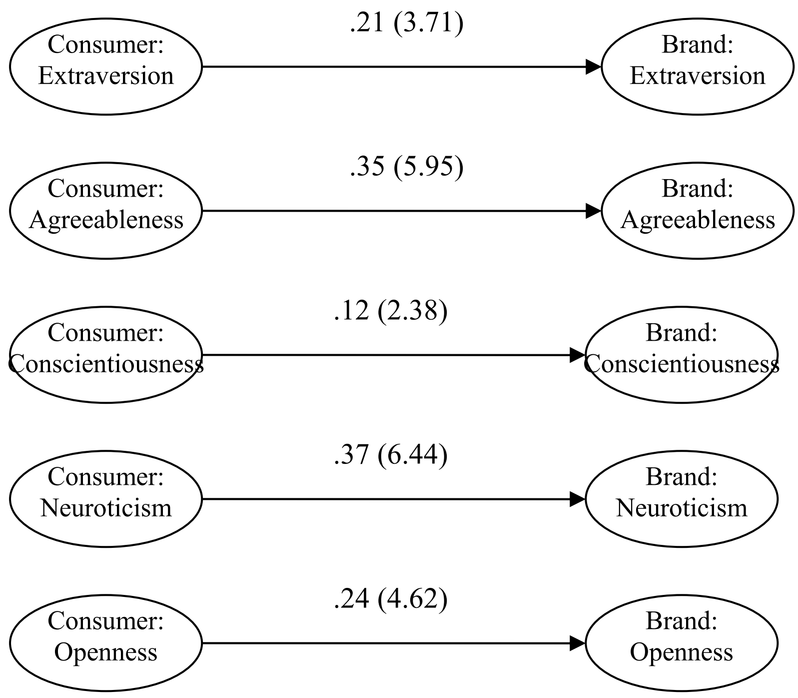
Table 7-15 Correlation matrices (PHI) of consumer personality and brand personality

	Brand Personality					Consumer Personality				
	1	2	3	4	5	1	2	3	4	5
1	1					1				
2	-.18**	1				.08	1			
3	-.07	.38**	1			.02	.11*	1		
4	-.11*	-.33**	-.22**	1		-.04	-.13*	-.08	1	
5	.43**	.17**	.13**	-.26**	1	.16**	.18**	-.04	-.21**	1

1. Extraversion; 2. Agreeableness; 3. Conscientiousness; 4. Neuroticism; 5. Openness
* t-value > 1.96 or < -1.96, p<.05 (2-tailed)
** t-value > 2.58 or < -2.58, p<.01 (2-tailed)

A structural equation model (SEM) was applied to examine Hypothesis 3 (H3). H3 suggested each factor of consumer personality as having a direct and positive relationship with the corresponding factor of brand personality with regard to their preferred brands. The result of the SEM is shown in Figure 7-2. The relationships between the consumer and brand personality were shown to be very significant, ranging from .12 (t=2.38, p<.01) to .37 (t=6.44, p<.01). Moreover, the model fit indices were above the norm cut-off criteria (χ^2=1891.30, df=650, p<.01; SRMR=.10; RMSEA=.064, 90% C.I.: [.061, .067]; TLI=.90; CFI=.91).

Figure 7-2 SEM model of the relationship between consumer personality and brand personality



NB1: t-values are stated in brackets (t>1.65 or <-1.65, p<.05; t>2.33 or <-2.33, p<.01; 1-tailed).
NB2: Appendix 12 displays LISREL graphic output, which shows the measurement errors of each latent variable.

Chi-square=1891.30, df=650, p<.01
SRMR=.10; RMSEA= .064, 90% C.I.: [.061, .067]; TLI=.90; CFI=.91

<u>The moderating effect of involvement and feeling</u>

Hypothesis 4 proposed that the levels of involvement and feeling would not influence the relationship between consumer and brand personality (H4). Thus, the moderating effects of involvement and feeling with regard to the relationship between consumer and brand personality were examined. Because whether or not the brand evaluated was a favourite brand may influence the outcome, a dummy variable representing a favourite brand and not-favourite-but-most-frequently-used brand was included in the examination. To follow Cohen and Cohen's (1983) suggestion, a *t*-test was applied to diagnose whether a significant difference appeared between two regression coefficients (Chapter 6.5.3). If a significant difference appears ($t>1.96$ or $t<-1.96$, $p<.05$), the moderating effect is said to take place.

Prior to conducting the regression analysis, the sample requirement and assumptions were checked. The sample size for each group ranged from 46 to 72 (Table 7-16), meeting the minimum sample size requirement, 20 (Hair *et al.* 1998, p.166). The assumptions of regression analysis are normality, linearity of the dependent and independent variables, homogeneous variance, and independence of errors (Tabachnick and Fidell 2007, p.125-128). These assumptions were examined via residual plots (Chapter 7.3) and the results suggested that the assumptions were met.

Table 7-16 Sample size breakdown by favourability, involvement, and feeling

		Favourite brand		Non-Favourite brand	
		High Involvement	Low Involvement	High Involvement	Low Involvement
Feeling	High	46	57	66	59
	Low	47	54	67	72

Table 7-17 shows that no main effect was presented to moderate the relationship between consumer and brand relationship. However, the results of interaction effect showed a mixed result; approximately one fourth of the interaction effects appeared while the rest showed insignificant effects. To determine overall interaction effects, a total number of 120 pairs were compared. The reason for pair comparison was because each factor only features two levels of difference, for example, high versus low involvement. Since each product category was designed to be involved with all three factors with different levels, to isolate the effect, pair comparison is recommended. The details of the pairs are provided in Appendix 8.

According to Bonferroni's adjustment (Paulson 2003, p.147-148), Type I error (α) will accumulate if the pair comparisons are treated simultaneously. To maintain the level of Type I error at .05 (5%), .05 will be shared by the number of pair comparisons treated at the same time. Thus, the cut-off criterion for alphas (*p*-values) was adjusted to .0125 (.05 / 4) for two-way interaction and .004 (.05 / 12) for three-way interaction. The results showed that the overall interaction effect was absent (Table 7-17). H4 was supported.

Table 7-17 The moderating effect of involvement, feeling, favourite brand on the relationship between consumer personality and brand personality

		Dependent variable: consumer personality → brand personality														
		Extraversion			Agreeableness			Conscientiousness			Neuroticism			Openness		
		US. C[1]	**S.E.[1]**	**t-value[2]**	**US. C[1]**	**S.E.[1]**	**t-value[2]**	**US. C[1]**	**S.E.[1]**	**t-value[2]**	**US. C[1]**	**S.E.[1]**	**t-value[2]**	**US. C[1]**	**S.E.[1]**	**t-value[2]**
Main effect																
Involvement	Low	.21	.07	.10	.44	.10	-.03	.14	.08	.16	.30	.08	-1.07	.18	.07	-1.67
	High	.20	.06		.45	.09		.12	.08		.41	.06		.34	.07	
Feeling	Low	.15	.07	-1.14	.51	.09	.86	.22	.06	1.28	.39	.07	.78	.18	.07	-1.69
	High	.26	.06		.40	.09		.09	.08		.32	.07		.34	.07	
Favourite brand	Low	.27	.07	1.21	.52	.09	1.25	.12	.08	-.24	.37	.07	.35	.22	.06	-.68
	High	.15	.06		.36	.10		.14	.07		.34	.07		.29	.07	
Interaction effect[3]																
Involvement * Feeling				NS[4]			NS			NS			NS			NS
Involvement * Favourite brand				NS			NS			NS			NS			NS
Feeling * Favourite brand				NS			NS			NS			NS			NS
Involvement * Feeling * Favourite brand				NS			NS			NS			NS			NS

1. US. C = Unstandardised Coefficient; S.E.= Standard Error
2. To determine main and interaction effects, t-value was calculated to compare whether the regression coefficients (i.e. the relationship) were statistically different. The calculation follows $t = \frac{(b_1 - b_2)}{\sqrt{(SE_1 * SE_1) + (SE_2 * SE_2)}}$, where b_1 and b_2 are the two unstandardised coefficients and SE_1 and SE_2 are the two standard errors of the two regression models that being compared. For the main effects, the cut-off criterion for each comparison was when t > 1.96 or t < -1.96, *p* < .05; for the two-way interaction effects, the cut-off criterion for each comparison was t > 2.45 or t < -2.45 (approx.), *p* < 0.0125 (.05/4); for three-way interaction effects, the cut-off criterion for each comparison was t > 2.86 or t < 2.86 (approx.), *p* < .004 (.05/12).
3. There are four pairs of t-values for two-way interaction and twelve pairs of t-value for a three-way interaction (i.e. Involvement * Feeling * Favourite brand) (Appendix 8).
4. NS represents 'non significant effect'.

7.5.2 Consumer-brand congruence

Hypothesis 5-7 stated that the levels of involvement and feeling would influence the level of consumer-brand congruence (H5, H6, and H7). Prior to examining this effect, four possible influences were identified, namely, familiarity with the product category, familiarity with the brand, the level of imagination towards brand personality, and whether the brand being evaluated was the favourite brand[4]. These factors were controlled because past research indicated that they may influence brand attitude (Alba and Hutchinson 1987; Phelps and Thorson 1991; Raju 1977; Sundaram and Webster 1999). The first three factors can be controlled via an analysis of covariance (ANCOVA), in which they were treated as covariates. The final factor (whether the brand being evaluated as the respondent's favourite brand) was treated as a fixed factor (independent variable) in the ANOVA.

An underlying rationale of using ANCOVA (instead of ANOVA) is that a relationship may exist between the covariates (i.e. familiarity with the product category, familiarity with the brand, and level of imagination towards brand personality) and the dependent variable (consumer-brand congruence). Therefore, before applying ANCOVA, whether or not any of these relationships was significant was examined. To examine the relationships, these three covariates were regressed on consumer-brand congruence separately to determine whether it was meaningful to

[4] According to the questionnaire design, respondents were guided to rate their favourite brands. However, if they did not have favourite brands, they were then asked to rate their most frequently used brands.

proceed to ANCOVA. The results suggested that none of the three covariates related to consumer-brand congruence ($F_{\text{familiarity with the product category}} = .01$, $p>.05$; $F_{\text{familiarity with the brand}} = .08$, $p>.05$; $F_{\text{imagination towards brand personality}} = .00$, $p>.05$). Consequently, ANCOVA was not necessary; ANOVA was sufficient to examine the hypothesis of consumer-brand congruence.

The consumer-brand congruence index was calculated by the difference of the scores between consumer and brand personality with regard to each corresponding measurement item. In other words, it was formed by the sum of these absolute values of differences (see p.179). Thus, a great difference implied a low congruence between the respondents and the brands that they evaluated; that is a high consumer-brand discrepancy. Thus, the consumer-brand congruence index will be termed consumer-brand discrepancy hereafter.

A three-way analysis of variance (ANOVA) was conducted to examine H5. Before conducting ANOVA, the assumptions of ANOVA and sample requirement were checked. The sample size ranged from 46 to 72 per group (Table 7-16, p.224), which were greater than the minimal requirement for sample size (20 per group). However, it was noted that this ANOVA was an unbalanced design, given that the sample size for each group was different. Although a balanced design (equal sample size across groups) is desired because the testing power can be strongest (Hair *et al.* 1998, p.342), SPSS is able to deal with an unbalanced design by applying Type III model to calculate sums of squares (SPSS 2003, p.365).

An examination of the assumptions of ANOVA was needed prior to applying ANOVA. There are three assumptions. The first of these is the independent nature of all groups. This criterion was achieved by assigning each respondent to only one of the eight groups on the basis of the product categories (Chapter 6.3.2) the respondents were assigned and whether or not the brands evaluated were their favourite brands. The second assumption is normality, which was examined in Chapter 7.3, showing that the normality assumption was met. Finally, the assumption is homogeneity of variance across groups. The homogeneity was examined by Levene's test of equality. The result ($F_{7, 460} = 1.28$, $p>.05$) indicated that the variances across groups were homogeneous, implying that the assumption was met. Thus, it was legitimate to carry out ANOVA and the ANOVA results are displayed in Table 7-18.

Table 7-18 The effects of involvement, feeling, and favourite brand on consumer-brand discrepancy

	Dependent Variable: Consumer-brand discrepancy					
	Sum of Square	Mean Square	df	F	Partial Eta Squared	Observed Power[NB1]
Corrected Model	77.64	11.09	7	3.35**	.05	.96
Intercept	7455.30	7455.30	1	2249.80**	.83	1.00
Main effect						
Involvement	18.16	18.16	1	5.48*	.01	.65
Feeling	6.86	6.86	1	2.07	.00	.30
Favourite Brand	3.57	3.57	1	1.08	.00	.18
Interaction effect						
Involvement * Feeling	30.22	30.22	1	9.12**	.02	.85
Involvement * Favourite Brand	5.55	5.55	1	1.67	.00	.25
Feeling * Favourite Brand	10.59	10.59	1	3.20	.01	.43
Involvement * Feeling * Favourite Brand	.49	.49	1	.15	.00	.07
Error	1524.33	3.31	460			
Total	9271.73		468			
Corrected Total	1601.97		467			

NB1: Computed using alpha = .05
* $p < .05$
** $p < .01$

The effect of favourite brand was inspected along with the effect of involvement and feeling in the three-way ANOVA to ensure that the test results were valid. The results showed that the consumer-brand discrepancy was higher (Mean: 4.11, SD: 1.94, N=264) when the brands evaluated were not the favourite brands but the most frequently used by the respondents, compared with the favourite brands (Mean: 3.97, SD:1.73, N=204). Although the direction of influence was reasonable, ANOVA results revealed no significant difference between them (F=1.08, p>.05). Thus, the effect of favourite brand was not critical in the case of consumer-brand discrepancy.

H5 supposed the main effect of involvement, H6 proposed the main effect of feeling, and H7 expected the interaction effect between involvement and feeling. Table 7-19 indicates that only the main effect of involvement and the interaction effect between involvement and feeling were evident to influence the level of consumer-brand discrepancy. The hypothesised effect of feeling was non-existent (H6), and therefore, it was rejected.

A main effect of involvement was found (F=5.48, p<.05). When involvement was high, consumer-brand discrepancy was low. Consequently, when involvement was high, the respondents tended to have a more congruent personality perception of themselves and the brands. Thus, H5 is supported. However, this main effect may be influenced by the interaction effect between involvement and feeling (H7).

H7 proposed that an interaction effect existed between involvement and feeling on consumer-brand discrepancy. This interaction effect was shown to be significant (F=9.12, *p*<.01). A multiple comparison was then carried out by t-tests to determine the effect in order to examine the sub-hypotheses of H7, which are stated below.

H7a: When involvement is high, consumer-brand congruence is similar regardless of the level of feeling.

H7b: When involvement is low, consumer-brand congruence is higher for high feeling than for low feeling.

H7c: When feeling is high, consumer-brand congruence is greater for high involvement than for low involvement.

H7d: When feeling is low, consumer-brand congruence is greater for high involvement than for low involvement.

The results demonstrated that a significant effect by feeling occurred only when involvement was low, while the effect of involvement exhibited significantly only when feeling is high (Table 7-19).

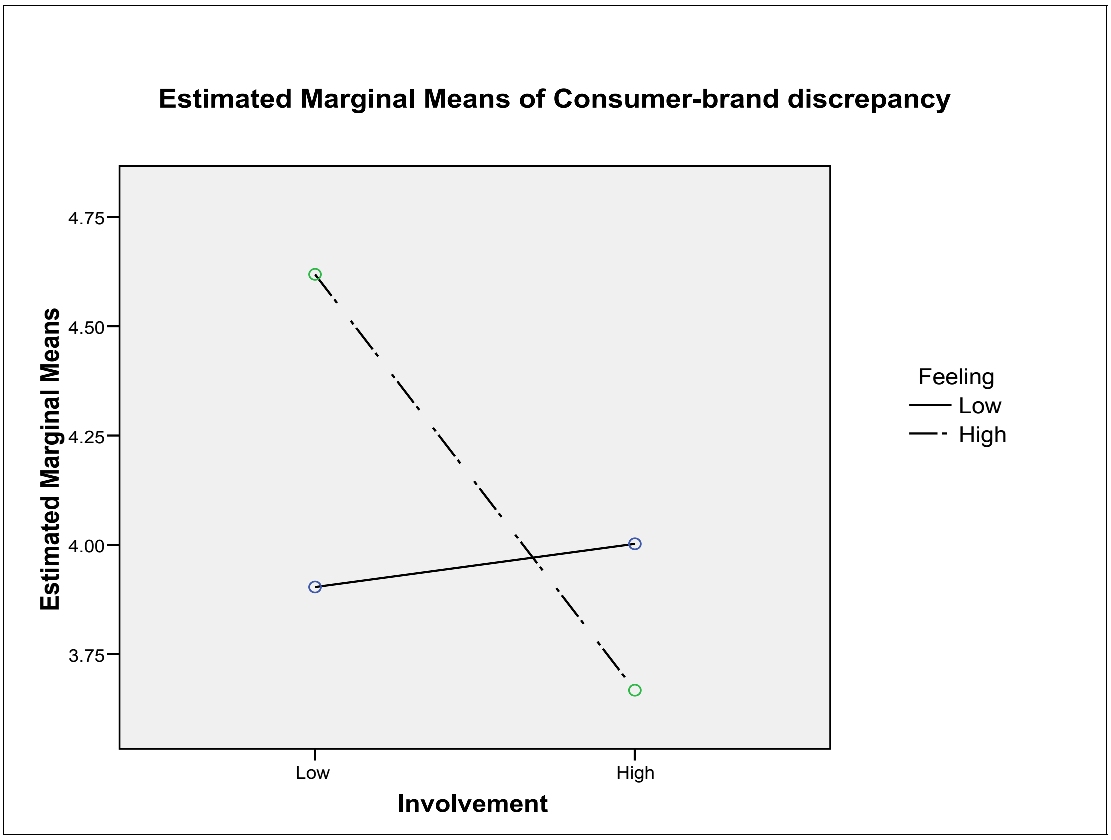
Table 7-19 Interaction effect between involvement and feeling

				95% Confidence Interval of the Difference		
		Mean Difference	Standard Error Difference	Lower Bound	Upper Bound	t-value
Involvement = High	High-low feeling comparison	.34	.24	-.13	.80	1.42
Involvement = Low	High-low feeling comparison	-.72	.24	-1.19	-.24	-2.96*
Feeling = High	High-low involvement comparison	.92	.24	.38	1.46	4.01**
Feeling = Low	High-low involvement comparison	-.13	.24	-.66	.41	-.41

* *p* < .01, 1-tailed
** *p* < .00, 1-tailed

The results suggested that when involvement was high, consumer-brand discrepancy was similar between high and low feeling. Thus, H7a was supported. On the other hand, when involvement was low, consumer-brand discrepancy was significantly different between high and low feeling. Figure 7-3 suggests that, under low involvement condition, high feeling resulted in a significantly higher consumer brand discrepancy than that resulting from low feeling. This finding was contrary to the hypothesis that, when involvement is low, the higher the feeling is, and the more resemblance there is between consumer and brand personality. As a result, H7b was rejected.

Figure 7-3 The effects of involvement and feeling on consumer-brand congruence



Under the condition of high feeling, the results indicate that consumer-brand discrepancy was higher for low involvement than for high involvement. This outcome was consistent with H7c. Thus, it was supported. On the other hand, the effect of involvement was not obvious when feeling was low. Therefore, H7d was rejected.

7.5.3 Brand relationship

Hypothesis 8-10 proposed that the levels of involvement and feeling influenced the level of brand relationship quality (H8, H9, and H10). As with the examination of consumer-brand congruence, prior to examining these effects, four possible influencers of brand attitudes were identified, namely, familiarity with the product category, familiarity with the brand, the level of imagination towards brand relationship, and whether the brand being evaluated was the favourite brand (Alba and Hutchinson 1987; Phelps and Thorson 1991; Raju 1977; Sundaram and Webster 1999). Similarly, the first three factors can be controlled via an analysis covariance (ANCOVA), in which they were treated as covariates, while the final factor (whether the brand being evaluated as the respondent's favourite brand) was treated as a fixed factor (independent variable) in the ANOVA.

The underlying rationale of applying an ANCOVA, that a significant relationship may exist between the covariates (i.e. familiarity with the product category, familiarity with the brand, and level of imagination towards brand relationship) and the dependent variable (brand relationship), was examined. The regression analyses were carried out to examine this rationale, and, indeed, the results revealed significant relationships between the covariates and brand relationship ($F_{\text{familiarity with the product category}} = 80.24$, $p<.01$; $F_{\text{familiarity with the brand}} = 138.94$, $p<.01$; $F_{\text{imagination towards brand relationship}} = 62.66$, $p<.01$). Thus, ANCOVA with the three covariates was used to conduct the analysis of brand relationship.

A three-way ANCOVA was conducted to examine hypothesis 6 (H6). The assumptions and sample requirement of ANCOVA were examined before carrying out the analysis. A sample requirement was checked (Table 7-16, p.224) and the minimum sample size met the criterion. Similarly, it was an unbalanced design (unequal sample size across groups) and Type III model was used to calculate sums of squares to remove issues raised from an unbalanced design (SPSS 2003, p.356). Moreover, the assumptions of ANCOVA are the same as those of ANOVA. Normality and independence of observation have been verified (p.40). The homogeneity of variance across groups was examined by Levene's test of equality. The result ($F_{7, 460} = 1.27$, $p>.05$) suggested that the variances across groups were homogeneous. The homogeneity assumption was met and, therefore, the use of ANCOVA was legitimate. The ANCOVA results are shown in Table 7-20.

Table 7-20 The effects of involvement, feeling, and favourite brand on brand relationship

	Dependent Variable: Brand relationship					
	Sum of Squares	Mean Square	df	F	Partial Eta Squared	Observed Power[NB1]
Corrected Model	108.46	10.85	10	26.32**	.37	1.00
Intercept	36.88	36.88	1	89.47**	.15	1.00
Covariate effects						
Familiarity with the product category	.04	.04	1	.11	.00	.06
Familiarity with the brand	21.39	21.39	1	51.90**	.10	1.00
Imagination towards brand relationship	18.06	18.06	1	43.82**	.09	1.00
Main effects						
Involvement	7.45	7.45	1	18.07**	.04	.99
Feeling	.47	.47	1	1.14	.00	.19
Favourite brand	10.64	10.64	1	25.81**	.05	1.00
Interaction effects						
Involvement * Feeling	.17	.17	1	.40	.00	.10
Involvement * Favourite brand	.15	.15	1	.37	.00	.09
Feeling * Favourite brand	.19	.19	1	.46	.00	.10
Involvement * Feeling * Favourite brand	.02	.02	1	.04	.00	.05
Error	188.36	.41	457			
Total	2712.31		468			
Corrected Total	296.82		467			

NB1: Computed using alpha = .05
** $p < .01$

Similarly to H5, H6, and H7, the main effect of involvement (H8), the main effect of feeling (H9), and the interaction effect between involvement and feeling (H10) were expected to influence the level of brand relationship quality. The results suggested that brand relationship has been influenced significantly by the level of brand familiarity and of imagination towards brand relationship, but not by the product familiarity level. When the covariates were controlled, the ANCOVA outcome demonstrated only the main effects of involvement and of favourite brand.

No main effect of feeling or any interaction effect was evident. Thus, H8 was supported, while H9 and H10[5] were rejected.

Since only the main effects of involvement and favourability of brand were evident, the following analysis will focus on these main effects. First of all, the effect of favourability of brand was examined. Brand relationship quality was significantly better when the respondents claimed the evaluated brands as their favourite brands (Mean: 2.45, SD: .05, N=204) than when they claimed the evaluated brands as their most frequently used brands (Mean: 2.14, SD: .04, N=264). There are two main indications of this finding. First, the effect of favourite brand took place in its own right (significant main effect) without interacting with other variables, such as involvement and feeling (non-significant interaction effect). Second, the finding suggested that the mean score of brand relationship for consumers' favourite brands was not particularly high, given it was below the mid point, 2.5, of a 5-point Likert type scale.

The other significant main effect was the effect of involvement (Table 7-20). When involvement was high (Mean: 2.43, SD: .79, N=226), brand relationship quality was better than when involvement was low (Mean: 2.13, SD: .78, N=242). Thus, H8 was supported.

[5] Since H10 was rejected, the sub-hypotheses of H10 (namely, H10a, H10b, H10c, and H10d) were all rejected without the need of further examination.

7.5.4 The relationship between consumer-brand congruence and brand relationship quality

Overall model

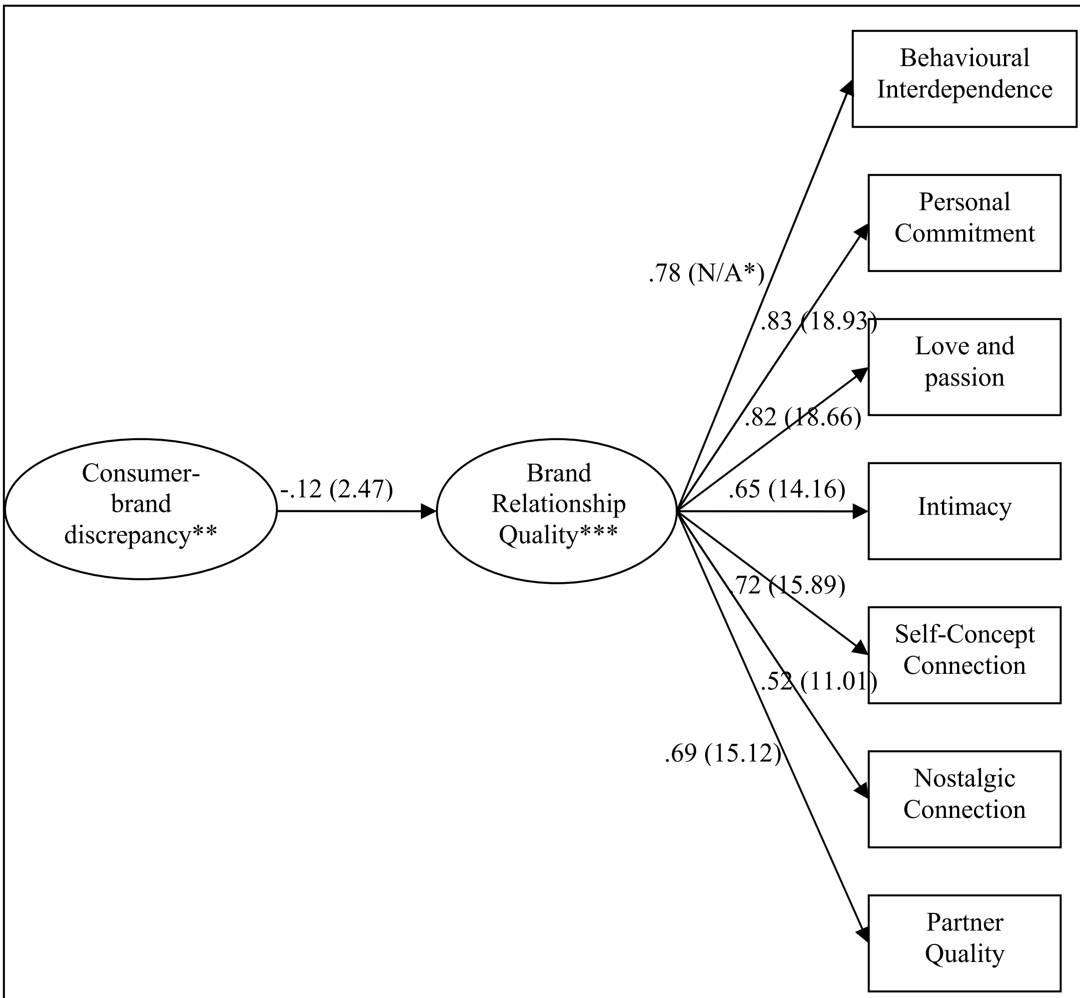
Hypothesis 11 (H11) suggested a positive relationship between consumer-brand congruence and brand relationship quality. As stated in Chapter 7.5.2, the consumer-brand congruence index was calculated by the difference of the scores between consumer and brand personality with regard to each corresponding measurement item. Thus, a great difference implied a low congruence between the respondents and the brands that they evaluated; that is, a high consumer-brand discrepancy.

On the other hand, brand relationship quality was reflected by the seven dimensions discussed in Chapter 7.4.3. Because brand relationship quality is a second-order measurement model, a summated scale for each of the seven dimensions was formed before proceeding to the SEM. A high score of brand relationship quality implies a good relationship with the brand. Therefore, the hypothesis (H11) expects a negative relationship between the consumer-brand discrepancy and brand relationship quality.

An SEM model was used to examine H11. The results are shown in Figure 7-4, which suggests a moderate, though statistically significant, negative relationship between the consumer-brand discrepancy and brand relationship quality (γ=-.12, t=2.47, p<.01). The model fit was reasonably good (χ^2=54.79, df=20, p<.01;

SRMR=.03; RMSEA=.061, 90% C.I.: [.042, .081]; TLI=.98; CFI=.99). This result implied that the higher the consumer-brand congruence, the better the brand relationship quality.

Figure 7-4 SEM of the relationship between consumer-brand discrepancy and brand relationship quality



NB: t-values are stated in brackets (|t|>1.65, *p*<.05; |t|>2.33, *p*<.01; 1-tailed)
χ^2=54.79, df=20, *p*<.01; SRMR=.03; RMSEA=.061, 90% C.I.: [.042, .081]; TLI=.98; CFI=.99

* This path was a reference variable for the construct of brand relationship quality; therefore, the t-value could not be calculated.

** Consumer-brand discrepancy was calculated by the difference between consumer and brand personality and the difference was summed to be a single indicator.

*** Brand relationship quality is a second-order construct. Thus, the summate scales were formed for the first-order dimensions in order to organise them into a structural model.

An additional SEM examination into the relationship between consumer-brand discrepancy and each dimension of brand relationship quality was carried out to evaluate that relationship. The results suggested that consumer-brand discrepancy was significantly, negatively related to all dimensions of brand relationship quality (t<-.165, p<.05), except for the dimensions of intimacy and nostalgic connection. However, not all the model fit indices showed a satisfactory level (χ^2=3027.43, df=225, p<.01; SRMR=.34; RMSEA=.16, 90% C.I.: [.16, .17]; TLI=.91; CFI=.92).

An examination of the modification index discovered that the possible problems rested on the single indicator of consumer-brand discrepancy (modification index=2049) and on the correlation among the dimensions of brand relationship quality (the largest modification index was 220). Since the issue of a single indicator of consumer-brand congruence cannot be remedied by the current research design, consumer-brand discrepancy was then correlated to each dimension individually to assess whether the standardised coefficients were similar. The separated models showed reasonably satisfactory model fit and the standardised coefficients were very similar to the collective model (Table 7-21). Again, consumer-brand discrepancy was negatively related to all dimensions of brand relationship quality (t<-.165, p<.05), except for the dimensions of intimacy and nostalgic connection.

Moreover, a further examination to break down the dimensions of personality for the consumer-brand discrepancy was conducted. The hypothesis expected a negative relationship between each personality factor and brand relationship quality. The results showed that only one path demonstrated a significantly negative relationship with reasonably good model fit (χ^2=101.21, df=44, p<.01; SRMR=.031;

RMSEA=.053, 90% C.I.: [.039, .066]; TLI=.97; CFI=.98). That path was between the discrepancy of the agreeableness factor and brand relationship quality (γ=-.14, t=2.43, p<.01) (Figure 7-5). The other paths were non-significant, indicating that the level of brand relationship quality was independent of the discrepancy of these factors (i.e. extraversion, conscientiousness, neuroticism, and openness to experience). Although a negative relationship presented between consumer-brand congruence and brand relationship quality at a collective level (Figure 7-4), no consistent relationship appeared between consumer-brand congruence and brand relationship quality at an individual factor level (Figure 7-5). Consequently, H11 was considered only partially supported.

Table 7-21 Path analysis between consumer-brand discrepancy and brand relationship quality

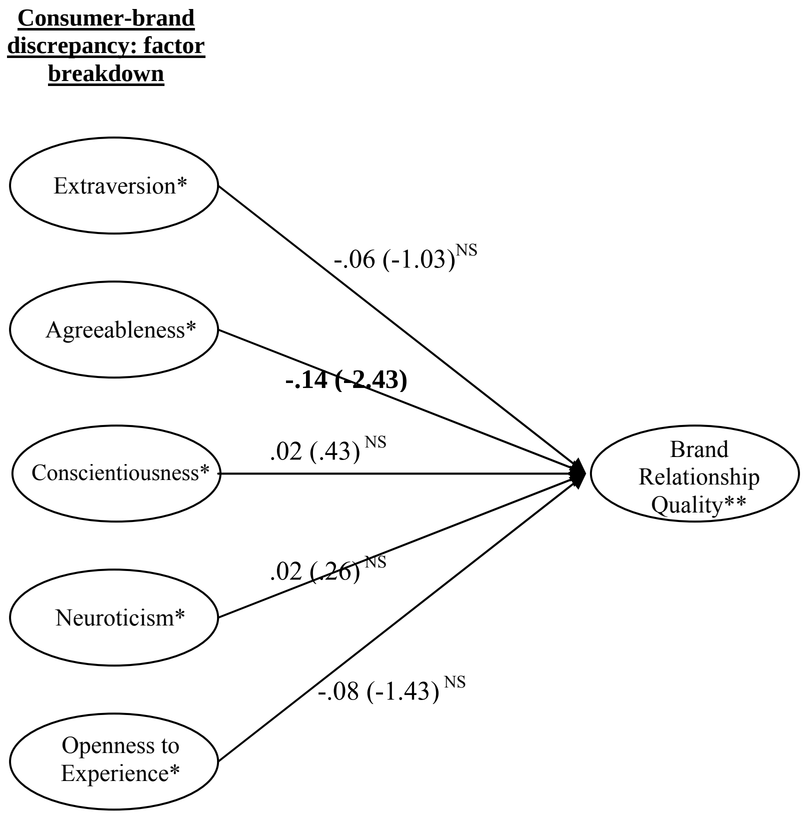
	Model 1[1]		Model 2[2]	
Path	**Standardised Coefficients**	**t-values**	**Standardised Coefficients**	**t-values**
Consumer-brand discrepancy →Behavioural interdependence	-.13	-2.63**	-.12	-2.43**
Consumer-brand discrepancy →Personal commitment	-.17	-3.33**	-.16	-3.13**
Consumer-brand discrepancy → Love and Passion	-.12	-2.23*	-.10	-2.01*
Consumer-brand discrepancy → Intimacy	-.02	-.04	-.01	-.02
Consumer-brand discrepancy → Self-concept connection	-.12	-2.37**	-.11	-2.17*
Consumer-brand discrepancy → Nostalgic connection	-.08	-1.64	-.06	-1.24
Consumer-brand discrepancy → Partner quality	-.11	-2.19*	-.10	-2.00*

1. Model fit indices: $\chi2$=3027.43, df=225, p<.01; SRMR=.34; RMSEA=.16, 90% C.I.: [.16, .17]; TLI=.91; CFI=.92
2. Model 2 is a collection of individual models between the consumer-brand discrepancy and each dimension of brand relationship quality. Thus, the model fit indices are demonstrated by the range: χ^2=1.5 ~ 17, df=1~5, p>.05; SRMR=.010~.025 ; RMSEA=.00~.08 ; TLI=.98~1 ; CFI=.95~1

* t > 1.65 or < -1.65, p<.05; 1-tailed

** t > 2.33 or < -2.33, p<.01; 1-tailed

Figure 7-5 The relationship between consumer-brand discrepancy and brand relationship – the breakdown of the Big Five



χ^2=101.21, df=44, *p*<.01; SRMR=.031; RMSEA=.053, 90% C.I.: [.039, .066]; TLI=.97; CFI=.98

NB: t-values are stated in brackets (t > 1.65 or < -1.65, *p*<.05; t > 2.33 or < -2.33, *p*<.01; 1-tailed)

NS: Non significant

* Consumer-brand discrepancy was calculated by the difference between consumer and brand personality at the Big Five level. The difference was summed to be a single indicator.

** Brand relationship quality is a second-order construct. The summated scale resembled the brand relationship quality in Figure 7-4.

The moderating effect of involvement and feeling

Hypothesis 12 proposed that the relationship between consumer-brand congruence and brand relationship remained constant regardless of the levels of involvement and feeling (H12). Thus, no moderating effect of involvement and feeling influencing the relationship was expected. Similar analysis to the inspection of H4 was applied to examine the moderating effects of H12. The results are shown in Table 7-22. No significant effect appeared to moderate the relationship between consumer-brand congruence and brand relationship. Consequently, H12 was supported.

Table 7-22 The moderating effect of involvement, feeling, and favourite brand on the relationship between consumer-brand congruence and brand relationship

		Dependent variable: consumer-brand congruence → brand relationship		
		Unstandardised Coefficients	**Standard Error**	**t-value^{NB1}**
Main effect				
Involvement	Low	-.01	.03	1.16
	High	-.06	.03	
Feeling	Low	-.05	.03	-.61
	High	-.03	.03	
Favourite brand	Low	-.06	.03	-.84
	High	-.03	.03	
Interaction effect^{NB2}				
Involvement * Feeling				-1.30~1.45
Involvement * Favourite brand				-1.52~.77
Feeling * Favourite brand				-1.32~.92
Involvement * Feeling * Favourite brand				-1.59~1.87

NB1: To compare whether the two slopes are statistically different, a t-value is calculated as:

$$t = \frac{(b_1 - b_2)}{\sqrt{(SE_1 * SE_1) + (SE_2 * SE_2)}},$$

where b_1 and b_2 are the two unstandardised coefficients and SE_1 and SE_2 are the two standard errors of the two regression models being compared. When $t > 1.96$ or $t < 1.96$, $p < .05$

NB2: The interaction effects are decided by calculating four pairs of t-values for two-way interaction (that is, Involvement * Feeling, Involvement * Favourite brand, and Feeling * Favourite brand; thus twelve pairs were calculated in total) and twelve pairs of t-value for a three-way interaction (i.e. Involvement * Feeling * Favourite brand).

7.5.5 Summary of hypothesis testing

The hypotheses were concerned with the relationships among consumer personality, brand personality, and brand relationship and the effects of involvement and feeling on these relationships. Table 7-23 summarises the results of the hypothesis testing. Most hypotheses were supported. Some hypotheses were rejected because the evidence was not sufficient to prove the existence of the hypothesised relationships (H6, H7d, H9, and H10). However, one hypothesis (H7b) was found to present an opposite relationship.

Table 7-23 A summary of the results of hypothesis testing

Hypothesis	Analysis method	Results
H1: Although brand personality and consumer personality are two distinct constructs, they can be measured by the same means.	SEM	Supported
H1a: Brand personality and consumer personality can be measured by the same measurement items.	SEM	Supported
H1b: The dimensionality of brand personality resembles that of consumer personality.	SEM	Supported
H1c: Brand personality and consumer personality are two distinct constructs.	SEM	Supported
H2: Stronger correlations are present among brand personality dimensions than among consumer personality dimensions	SEM/ Pair t-test	Supported
H3: A positive relationship exists between consumer personality and brand personality with regard to their corresponding dimensions	SEM	Supported
H4: The relationship between consumer and brand personality does not depend on the levels of involvement and feeling	Regression	Supported
H5: There is a positive relationship between involvement and consumer-brand congruence	ANOVA/ ANCONVA	Supported
H6: There is a positive relationship between feeling and consumer-brand congruence	ANOVA/ ANCONVA	Rejected*
H7: There is a significant interaction effect between involvement and feeling on consumer-brand congruence	ANOVA/ ANCONVA	Partially supported
H7a: When involvement is high, consumer-brand congruence is similar regardless of the level of feeling.	ANOVA/ ANCONVA	Supported
H7b: When involvement is low, consumer-brand congruence is higher for high feeling than for low feeling.	ANOVA/ ANCOVA	Rejected**
H7c: When feeling is high, consumer-brand congruence is greater for high involvement than for low involvement.	ANOVA/ ANCONVA	Supported
H7d: When feeling is low, consumer-brand congruence is greater for high involvement than for low involvement.	ANOVA/ ANCOVA	Rejected*
H8: There is a positive relationship between involvement and brand relationship quality.	ANOVA/ ANCONVA	Supported
H9: There is a positive relationship between feeling and brand relationship quality	ANOVA/ ANCONVA	Rejected*
H10: There is a significant interaction effect between involvement and feeling on brand relationship quality	ANOVA/ ANCONVA	Rejected*
H10a: When involvement is high, brand relationship quality is similar regardless of the level of feeling.	ANOVA/ ANCONVA	Rejected*
H10b: When involvement is low, brand relationship quality is better for high feeling than for low feeling.	ANOVA/ ANCONVA	Rejected*

Table 7-23 A summary of the results of hypothesis testing (Continued)

Hypothesis	Analysis method	Results
H10c: When feeling is high, brand relationship quality is better for high involvement than for low involvement.	ANOVA/ ANCONVA	Rejected*
H10d: When feeling is low, brand relationship quality is better for high involvement than for low involvement.	ANOVA/ ANCONVA	Rejected*
H11: The more congruence between consumer personality and brand personality, the better the brand relationship.	SEM	Partially supported
H12: The relationship between consumer-brand congruence and brand relationship quality does not depend on the levels of involvement and feeling.	Regression	Supported

* No significant effect was found.
** An opposite relationship to the hypothesis was found.

7.6 Summary

The measurement models of consumer personality, brand personality, and brand relationship were validated. The hypotheses regarding the positive relationships between consumer and brand personality and between consumer-brand congruence and brand relationships were generally supported. Although the effects of involvement were found to influence the levels of consumer-brand congruence and brand relationship, the effect of feeling failed to influence these two constructs. The important findings and non-findings will be discussed in the next chapter (Chapter 8).

Chapter 8. Discussion

8.1 Introduction

This chapter presents in detail the theoretical underpinnings of the findings discovered in the previous chapter. The discussion centres on (i) brand personality, (ii) the relationship between consumer personality and brand personality, and (iii) brand relationship. Quantitative findings (Chapter 7), together with the qualitative interviews (exploratory research) presented where appropriate, are drawn to support the argument.

First of all, the conceptual and measurement issues of brand personality are discussed by demonstrating the main differences between the brand personality defined for this study and Aaker's (1997) brand personality. The conceptual difference lies in the definition of personality. While Aaker (1997) saw personality as human characteristics, the current study positioned personality as 'inner' characteristics of human beings. This conceptual difference led to different measurements being applied to brand personality. This study applied a personality inventory, developed for humans, to brands. Moreover, instead of pre-selecting well-known brands for the respondents to evaluate as previous researchers did, this study employed the peer-rating concept from psychology and instructed the respondents to rate their favourite brands (or most frequently used brands in the case of the absence of a favourite brand). The brand selection method was able to ensure a certain interaction (experience) between the brands and the respondents. Finally, the brand personality structures studied were different. Aaker (1997) focused on a between-brand structure of brand personality, while this study emphasised the integration between brands and subjects (respondents). The underlying rationale was that each individual may perceive the same brand differently. Since brand personality is the individual's perception, the combination of individual and brand is important in analysing the structure. The results supported the fact that brand personality could be measured by the same items used on consumers.

The second discussion focuses on the relationship between consumer personality and brand personality. This relationship was examined by (i) standardised coefficients of an SEM and (ii) a consumer-brand congruence model. The standardised coefficients showed that consumer and brand personality were positively, consistently, and strongly related, regardless of the levels of involvement, feeling, favourability of brand, product familiarity, and brand familiarity. It may be explained that consumers maintaining their identities in various situations by having a consistent identity relationship with the brand personality of the brands that they use. However, how closely consumers reflect their identities by using the brands with similar personalities to theirs (consumer-brand congruence) may depend on how important the product is to the consumers' life (product involvement).

The final discussion centres on the notion of brand relationship quality. The results showed that the concept of brand relationship was supported. By applying the self-identity theories and interpersonal relationship theories, it was hypothesised that brand relationship quality was positively related to consumer-brand congruence. Although the positive relationship was sustained statistically, the evidence was weak

(γ=-.12, t=-2.47, p.267). Moreover, it was found that the average score of brand relationship quality of 'favourite brand' was below 2.5 on a 5-point Likert-type scale. Although the brand relationship concept had support from qualitative data (exploratory interviews) and previous research, a re-examination of the brand relationship quality scale is proposed.

8.2 Brand personality

The current study has verified that brand personality can be measured by the same means used for consumer personality. This finding suggests that a scale for brand personality may not be needed. Although consumer personality and brand personality can be measured by the same means, they represent two different constructs, in that (i) the discriminant validity was verified (H1) and (ii) the characteristics were different – the dimensions of consumer personality did not seem to relate to one another, while the dimensions of brand personality appeared to strongly relate to one another (H2). Therefore, this finding facilitates the comparison between the consumers and their brands.

The differences between Aaker's (1997) brand personality (the pioneered brand personality scale and the most rigorously developed and well-known scale for brand personality) and the brand personality of this study lie in three aspects. First of all, brand personality was defined differently. This conceptual difference resulted in submitting different adjectival terms for factor analysis. Secondly, the methods of brand selection for investigation were different. Aaker, along with other researchers (Caprara, Barbaranelli, and Guido 2001; Sung and Tinkham 2005; Venable *et al.*

2005), selected the brands for their subjects (respondents) to rate, while this study asked the subjects to rate their favourite brands or their most frequently used brands. Thirdly, the analysis methods were different. Aaker used a between-brand concept to mirror the notion of between-individual in terms of personality, while this study applied a concept of integration between brands and individuals (brand x subject) to investigate the differences existing among the individuals' perceptions with regard to the brands.

The first (and probably the most important) difference was in the definition of brand personality. Past research claimed the necessity of a scale for brand personality (Aaker 1997; Aaker, Benet-Martinez, and Garolera 2001; Caprara *et al.* 2001; Sung and Tinkham 2005; Venable *et al.* 2005). This claim was based on the metaphoric nature of brand personality: brand personality is formed (developed) differently from consumer personality (Aaker 1995, p.393). Aaker (1997) took up Park's (1986) ideas on impression development for real people and applied them to brands, defining brand personality as "a set of human characteristics associated with a brand (p.347)." This definition has been widely shared by many other researchers studying brand personality. They used Aaker's concept of brand personality as a means of developing their own versions of brand personality scales (Aaker *et al.* 2001; Caprara *et al.* 2001; Sung and Tinkham 2005; Venable *et al.* 2005). However, 'impression for real people' involves *more* than personality. Hence, this definition includes physical and demographic characteristics. It is understandable that previous researchers found it appropriate to use the impression for real people to conceptualise brand personality. The exploratory interviews of the current study found that the interviewees tended to articulate the ‘brand person’ via various means, making associations with human characteristics, which included physical and demographic features. For example, one interviewee said:

> *iMac is a New Yorker, who is probably a writer. He is very creative and he goes round with baggy clothes. But he is not trampy. He is just very relaxed and laid back, very interesting to talk to. Sony is a very intelligent Japanese man, who, although he is intelligent, he is not someone who goes round wearing Gucci all the time. He is kind of young, no older than about 27, and he is cool, but he is very into his technical stuff and looking cool. Toshiba is maybe German, very efficient, kind of serious but at the same time doesn’t take himself too seriously like other brands do.*
>
> [Emma]

Even some of the interviewees who could not elaborate the brand person as well as Emma could still tended to use physical and demographic characteristics to describe the brands.

> *I don’t know whether you know Stella’s got a name, wife beater (laugh). … Imagine that a guy just drank that and might have gone and beat his wife. That kind of sense. That’s probably how I see Stella.*
>
> [Toby]

> *She, for Top Shop… 23 [years old]…She’s a fashion model, [but] not the high end designers like Versace or Chanel but for the younger targets.*
>
> [Lauren]

This type of elaboration of brands is to personify the brands. Thus, Aaker’s definition of brand personality may be best termed ‘personified brand image.’ However, the term ‘personality’ is used to refer to inner characteristics, and these inner characteristics can be inferred from behaviour (Chapter 2.6). This conceptual difference between personality in psychology and brand personality defined by Aaker has been identified by Azoulay and Kapferer (2003) and Allen and Olson (1995). Although they pointed out a direction for modifying the current concept of brand personality, they did not offer enough insight into how to shape the idea of brand personality conceptually and empirically.

In order to borrow the personality concept from psychology, the definition of brand personality needed to be re-examined. Chapter 2 reviewed the conceptual issues of personality in the literature of psychology. It was found that personality in psychology had been defined differently (Hall and Lindzey 1978, p.9; Pervin 1990, p.3). Although the four main perspectives (psychodynamic, behavioural (social-cognitive learning), humanistic, and trait perspectives) stem from different ontological assumptions of personality, they all came to a consensus in the contemporary era. That is, personality cannot be properly studied without social contexts. The environment (Allport 1937; Murray 1938) and experience (Buss 1991; McAdams 1996) are critical in understanding personality and the effects of personality with regard to behaviour. Following the rationale of the interactionist viewpoints, personality in this thesis has been defined as "an individual's perception of the configuration of his cognition, emotion, and motivation, which activates behaviour and reflects how he adjusts to the environment by incorporating his life experience (p.41)." However, it is also noted that self-report personality (which is frequently used in marketing) is merely the individual's perception of himself. A perceived personality may not be the same as the 'true' personality. Likewise, brand personality is "a consumer's perception (imagination) of the personality a particular brand possesses. Brand personality describes the inner characteristics (i.e. the configuration of cognition, emotion, and motivation), which are conveyed through the individual's experience with the brand and the brand identity (p.113)."

Therefore, this study applied the core definition of personality from the psychology literature to brand personality. Since the definition of brand personality of this thesis differs from Aaker's definition, the adjectival terms submitted for factor analysis were different. With a definition consistent with that defined in personality psychology, the personality inventory was directly borrowed from psychology and used on brand personality. Although Aaker (1997) followed a scrupulous procedure to generate the item pool of the adjectival terms, her definition led her to include some problematic adjectival terms, such as 'good-looking.' Thus, different lists of adjectival terms resulted in different findings of EFA's. However, factor analysis is not a placebo; rather, it is a "garbage in, garbage out (Hair *et al.* 1998, p.97)" tool. Though it is helpful in terms of verifying the factor structure (dimensionality), it is merely based on the information (item pool) provided. One should use this tool with great care; otherwise, it is not surprising that many different scales of brand personality have already emerged from different pools of measurement items (Chapter 4.5.1).

The second difference lies in the ways of selecting brands for rating. It is noted that both consumer personality and brand personality are the consumer perceptions (Chapter 2.6 and Chapter 4.5.1). Such perceptions need to be of a certain strength in order for the personality inventory to work properly (Norman and Goldberg 1966; Paulhus and Reynolds 1995). However, past research selected well-known brands when developing a brand personality scale. Well-known brands do not necessarily mean that they can stretch the raters' imagination to the extent that they perceive the brands as having personality characteristics. For example, Allen and Olson (1995) indicated that consumers assign personality characteristics to brands via inferences based on observations of 'brand behaviour (p.393).' Brand behaviour can be observed from the marketing communications of the brand companies, such as the image of an endorser (McCracken 1989). Moreover, it is attached to what happens in everyday situations (Fournier 1998). Therefore, this study used the 'peer-rating' concept for developing personality inventories in psychology (Norman and Goldberg 1966; Paulhus and Reynolds 1995). Instead of rating the well-known brands pre-selected by the researcher, the respondents chose their own brands; that is, their favourite brands (in the case of the absence of a favourite brand, they were instructed to rate their most frequently used brands).

The third difference was the analysis methods. The purposes of extracting the factor structures differ according to the analysis method; the structures include between-brand, within-brand, and the integration between brands and subjects (brand x subject). Milas and Mlačić (2007) suggested that the results of factor analysis on these three structures, although similar, did not resemble one another. Therefore, it may be the different structures, which Aaker and this study focused on, that caused the different results of factor analysis.

Aaker (1997) argued that brand personality was determined by the differences among brands, rather than among individuals (p.350), suggesting that a between-brand structure was appropriate. Thus, when she factor-analysed her data, she averaged the scores of the personality traits across different individuals. However, the structures of between-brand, within-brand, and the integration between brand and subject (brand x subject) serve different purposes, just as the personality structures of between-individual and within-individual have different emphasises in the personality studies (Cervone 2005). A between-brand structure possesses a valuable managerial implication, because the brand companies are able to locate their brands in relation to those of their competitors. On the other hand, a within-brand structure can be obtained by investigating between-subject variance (Milas and Mlačić 2007, p.623). Thus, a within-brand structure can facilitate the brand companies' understanding of their brands in the minds of various consumers. For example, a within-brand structure may be able to compare the brand personality structures between brand users and non-users.

Although between-brand and within-brand structures offer worthwhile managerial insights, Austin, Siguaw, and Mattila (2003) indicated that there may not have been enough brands to confirm the reliability of these structures (p.83), especially for between-brand structure (Milas and Mlačić 2007, p.625). This potential risk may lead to the possibility that the between-brand structure is less stable than the structure based on the integration between brands and subjects (ibid). Moreover, the key determinant of brand personality rests on each individual's perception. Each individual may see the same brand differently. Therefore, the study treated each brand in each individual's mind as a different subject-brand. An integration between brands and subjects (brand x subject) was used to analyse the structure of brand personality.

The differences in the definitions of brand personality, methods of brand selection, and foci of personality structures (between-brand, within-brand, or the-integration-between-brand-and-subject) may have led to the different results. By mirroring the definition of brand personality to that of human personality, by applying the peer-rating concept of the development of personality inventories in psychology, and by focusing on each individual's perception of a brand (the between-brand-and-subject structure), the study found that brand personality could be measured by the exact same items that were used on consumers.

One EFA and two CFAs were used to verify the measurement model of brand personality. However, one may argue that the initial EFA results did not demonstrate that brand personality possessed a clear five-factor structure and it failed to resemble the exact result of the EFA of consumer personality (Table 7-6, p.213). It is true that the initial EFA results showed a divergence between brand personality and consumer personality; however, it is noted that the personality inventory (the Saucier's (1994) mini-markers) has never been purified by the CFA. The study applied CFA to both consumer personality and brand personality. These two separate CFAs followed the same procedure; that is, the unsuitable items were removed one by one. By so doing, the two CFAs generated the same measurement models.

However, the legitimacy of the results can be weakened when taking the following two points into consideration: (i) the difference in the levels of branding activity of different product categories and (ii) respondents' carryover effect of their own personality to brand personality. The first point focuses on the different levels of branding activity of the focal products, namely, laptop computers, washing-up liquids, soft drinks, and jeans. The reason that branding activities are important is because brand personality is merely a metaphor of brand-as-a-person. A metaphor is "a …false, declarative assertion of existential equivalence that compares two concepts (Hunt and Menon 1995, p.82)" and is used as creative lenses through which we see, understand, and interpret a phenomenon (Lakoff and Johnson 1980, p.5). Therefore, the sources to stimulate the respondents' perception (imagination) do not merely rest on a close experience with the brands (see Chapter 4.5.1 and Chapter 5.2.1). The first stage of forming perception is exposure of stimulus (i.e. brand) (Solomon 1999, p.44). This exposure comes from various sources. A close experience with the brands is one of them. Another critical source is branding activities, which are used to cultivate the image of the brand. Thus, it is possible that brand personality scale only works for those brands engaged in high levels of exposure to consumers (or the respondents). The current study was not able to isolate the levels of branding activities of the brands. Given that the product categories (laptop computers, washing-up liquids, soft drinks, and jeans) chosen for this research are considered relatively high compared with other product categories (e.s. furniture). The possibility of over-claiming the positive results that a human personality scale works on brands cannot be ruled out.

The second reason that can jeopardise the results of brand personality scale is the carryover effect. The carryover effect indicates that the respondents may have been biased by their short-term memory because they evaluated brand personality immediately after the evaluation of their own personalities. Given that the measurement items of brand personality is a replica of human personality, the carryover of the item information to the subsequent evaluation can occur (Sternberg

1966). In a recent study, Nosofsky and Kantner (2006) found that their respondents' response criterion changed. Although how the criterion changes is less certain (Visscher, Kahana, and Sekuler 2009), the possibility of the occurrence of the change increases with the decrease in the time delay between two instruments are used (Portrat, Barrouillet, and Camos 2008). Therefore, the reliability of the results of the brand personality scale can be questionable.

The statistical results showed that it was possible to measure consumer personality and brand personality by the same items, and these items resulted in the same dimensionality (the Big Five). Although they could be measured by the same means, they represented two distinct constructs. The distinction was shown by putting both consumer personality and brand personality into the same CFA. The χ^2 difference tests showed that discriminant validity of the corresponding dimensions between consumer and brand personality was evident (Table 7-14, p.219). This result suggested that brand and consumer personality were different. Moreover, the mechanisms within the structures of the two constructs differed. Compared with consumer personality, the interrelationships between the dimensions of brand personality were stronger (Table 7-15, p.222). This finding may imply (and support) the differences in forming consumer personality and brand personality. Unlike consumer personality, brand personality may require more inferences from the more obvious characteristics of certain dimensions that consumers perceive. Although the concept and the measurement of brand personality reflecting those of personality were supported by the current study, it is recognised that the statistical results may have been influenced by the possible carryover effects of the respondents and existing branding activities. This possibility raises the issue that brand personality could have been measured as a projection of the respondents by the memory effect and advertising effect. More research is required to isolate this possibility before it is legitimate to claim brand personality as it was measured by the current scale.

8.3 Consumer personality and brand personality

8.3.1 The relationship between consumer personality and brand personality

In the previous section, it was demonstrated that consumer personality and brand personality could be measured by the same items (Chapter 8.2). Both constructs resulted in the same dimensionality of the Big Five, namely, extraversion, agreeableness, conscientiousness, neuroticism, and openness to new experiences. This finding facilitated the comparison between consumer personality and brand personality at a meaningful level; that is, (i) how strong the relationship between consumer personality and brand personality was, and (ii) how closely the respondents perceived that their favourite brands (or the most frequently used brands) resembled themselves in terms of personality.

The SEM result revealed that the correlations between consumer personality and brand personality were strong and significant on their corresponding dimensions (Figure 7-2, p.223). The standardised coefficients ranged from .12 (t=2.38) to .37 (t=6.44). This result indicated the respondents used the brand meanings to construct or reflect their self-identities. The symbolic meanings of brands used to construct or reflect one's self-identity was further strengthened by the finding that the correlation between the dimensions of consumer and brand conscientiousness was the lowest (γ=.12, t=2.38; γ's of other dimensions were greater than .20). Conscientiousness was evaluated by such adjectival terms as organised or efficient. In other words, conscientiousness taps the functional aspect of a brand. In comparison to other non-functional meanings of the brand (extraversion, agreeableness, neuroticism, and openness to new experiences), this functional aspect was not evaluated as highly.

It has long been believed that consumers use their brands to construct or reflect their self-identities (Belk 1988; Elliott and Wattanasuwan 1998; Gardner and Levy 1955; Levy 1959; Wright, Claiborne, and Sirgy 1992). Research in this area has been given much attention by qualitative researchers (see Arnould and Thompson 2005, p.871-873, for a brief review). On the other hand, quantitative researchers have struggled to find a 'valid' measurement for self-identities.

The self-concept studies include two streams of research. At the beginning, the researchers attempted to apply personality to brand choice. However, the results were disappointing (Kassarjian 1971, 1979; Kassarjian and Sheffet 1981, 1991). For example, Evans (1959; 1968) did not find a convincing relationship between personality and brand choice of automobiles, while others (Claycamp 1965; Cohen 1967; Schaninger and Sciglimpaglia 1981; Sparks and Tucker 1971; Tucker and Painter 1961) claimed that a relationship was found. Even if a relationship was found, the researchers could not explain their results conceptually. Later, they discarded the application of personality to consumer research because of the discouraging findings.

On the other hand, other researchers brought the concept of self-identity to brand (or product) choice (Gardner and Levy 1955; Grubb and Grathwohl 1967; Sirgy 1982). Studies on self-identity have been more successful and consistent than those on personality, but they encountered two main obstacles. The first obstacle was the measurements used to evaluate self image and brand image. The measurements employed by most studies were 'convenient' in the sense that they did not have theoretical groundings and verifications. They were adjectival terms found from advertisements or from brand image (Belch and Landon 1977; Bellenger, Steinberg, and Stanton 1976; Birdwell 1968; Dolich 1969; Grubb and Hupp 1968; Grubb and Stern 1971; Hughes and Guerrero 1971; Landon 1974; Malhotra 1981; Munson and Spivey 1980; Ross 1974; Sirgy and Danes 1982; Sirgy *et al.* 1991). However, the concept of a brand image may not be wide enough to encompass the self-identity concept. Even when the researchers (Bellenger *et al.* 1976) attempted to use personality measures in the self-concept study, they still shared the same conceptual and measurement problems in consumer personality research; that is, (i) the relationship of the specific traits that they decided to examine was not established conceptually, and (ii) the personality measures borrowed from psychology were drastically modified.

The second obstacle was the analysis methods they applied. The most popular analysis method was ANOVA, which was used to compare the mean difference of the self-brand congruence between users and non-users (Dolich 1969; Grubb and Hupp 1968; Grubb and Stern 1971; Munson and Spivey 1981). Although the mean difference comparison provided valuable information regarding how users and non-users see the same brands, it may not be rigorous enough to account for an association between the images of consumers and brands.

Therefore, by applying and verifying the personality measures with consumers and brands and by applying a structural equation model, which is able to take the measurement errors into account, this study intended to show that the respondents used the brands to construct or reflect their identities. However, how much does personality approximate to self-identity?

Mischel and Morf (2003) recognised that the relationship between the self and personality was an entangled one (p.19-20). According to Tesser (2002) the self is “a collection of abilities, temperament, goals, values, preferences that distinguish one individual from another (p.185).” Thus, personality can be viewed as antecedent to the self (Hoyle 1999, p.17), and the self can be seen “as a mediator between personality and adjustment (Graziano, Jensen-Campbell, and Finch 1997, p.392)” to the environment. Personality becomes the attributes an individual has, and the self deals with what the individual does and experiences (Mischel and Shoda 1995). Therefore, the finding that consumer and brand personality were strongly associated with each other implied that, through the experience the consumer had with their brands, they are identified with their brands, and, in their perception, their brands are identified with them. This implication was supported by not only the quantitative data discussed earlier but also the exploratory interviews. When Emma described herself, she focused on her independence, actual-self, and individuality.

> *My point is that it doesn’t matter if you wear make up or not, you have got to have your own personality and know who you are to attract*

people. So I don't have a problem with people who wear a bit of make up if they are natural towards people and are not false in any way. But a lot of girls what comes with all the make up and the clothes and everything else is a split personality. It is somebody who puts on a front but is actually even more insecure than someone like me would be because I am comfortable with who I am.

When she talked about brands, coincidently, she valued the brands which could express individuality with a genuine sense in that the design was not forced onto the brands.

I like my style to be very individual. …I love Levis. And I wouldn't worry about how much I was spending, if I liked it, I would buy it. …They [Levis jeans] are very good and hard wearing and I like their design. With my clothes, I am very much about design. You can tell when clothes are cheap because they have no design to them, or if they try and have design to them, the design is rubbish, it's not well thought out.

A similar match between the consumer and brand personality was also found with a practical shopper, Toby. Toby explained that he was practical in that he focuses on prices and functional attributes of the products. When he compared Sony's mp3 players with iPods, he said:

Both my mp3 are Sony's… I just see it as a quality brand. … I don't like Macs. I don't like Apple. I never liked this whole iPod phenomenon. … It was just all of the marketing and there are a lot better music players out there. It's just the iPod. That's my opinion.

On the other hand, the effects of involvement, feeling, and how favourable the brands are, were not shown to moderate the relationship between consumer and brand personality. That is to say, under the conditions of different levels of involvement, feeling, and how favourable the brands are, the relationship between consumer personality and brand personality remained similar. These findings indicated that the relationship between consumer and brand personality depended on the respondents' experience of the brands, regardless of the levels of involvement, feeling, and how favourable the brands are. Thus, the findings were in line with the claim of Mischel and Shoda (1995) that experience played an important role in how an individual perceives himself and his surrounding environment (the role of experience will be discussed in more detail in Chapter 8.3.3). Overall, the evidence implied (and maintained the hypotheses) that the respondents used the brand meanings of various products (hence, in different situations) to construct or reflect their self-identities.

8.3.2 The effects of involvement and feeling on consumer-brand congruence

The main effect of involvement on consumer-brand congruency was strongly supported, while that of feeling failed to be sustained. Moreover, a significant interaction effect between involvement and feeling was presented to influence the level of consumer-brand congruence. As hypothesised, when involvement was high, the level of consumer-brand congruence was similar, regardless of the level of feeling. Contrary to the hypothesis, it was found that, when involvement was low, the level of consumer-brand congruence for high feeling was lower than for low feeling.

The reason for the minuscule effect of feeling may lie in the origins of involvement and feeling. Involvement, as defined, is referred to personal relevance (Zaichkowsky 1985). It holds an individual's strongest beliefs and values (Sherif and

Cantril 1947). Thus, the strongest beliefs and values are a part of the self (Rokeach 1968). When involvement was high, the association with the identity construction may have become very obvious to the respondents. Thus, the respondents demonstrated a close resemblance with the brands they chose. However, the definition of feeling is less clear. Ratchford (1987) suggested that feeling implied ego-gratification, social-acceptance, and sensory-pleasure motives, and belonged to affective processing (p.26). The original FCB grid places feeling, as opposed to thinking, which represents and stresses the aspect of logical consideration of purchase; that is, the functional aspects. If feeling is opposed to the logical consideration of purchase, then feeling may pursue the aesthetic aspect of purchase; that is, sensory-pleasure motives. When the sensory-pleasure motives are strong enough, they may be transferred to ego-gratification or social acceptance. When ego-gratification or social acceptance becomes beliefs or values of an individual, then they will, again, be transferred to involvement. Thus, it is suggested that feeling, when strong enough, will be translated to involvement. However, the opposite does not stand. This may be the reason why the effect of involvement was obvious, while the effect of feeling was not.

It was proposed that, when involvement was low, the level of consumer-brand congruence for high feeling would be higher than for low feeling. However, the results suggested otherwise. Two reasons may account for this occurrence. The first reason for the opposite interaction effect found between involvement and feeling when involvement was low may lie in the effect of brands. The products were chosen because of the relative positions they held in the respondents' mind. These positions were established on the basis of involvement and feeling with regard to the products. However, consumer-brand congruence is dependent on the brands, not on the products. While well-known, private-labelled brands are not very popular in the product categories of jeans, laptops, and soft-drinks, they are quite popular with washing-up liquids, for example, Tesco (Appendix 10). Consequently, brand halo effects may transfer the emotional effects of the brand generally to the brand of the specific product. This brand halo effect was apparent to the interviewees.

> *Tesco's… I do like Tesco because there is so much variety and you can get stuff cheap.*
>
> [Tamara]

> *In a supermarket you will get Tesco's own fish bake and then you will get Tesco's own economy fish bake. Economy might be a bit crap so you go for Tesco's own fish bake which are still cheaper than the branded one. And it's not too bad.… I love Tesco.*
>
> [Stephen]

The second reason for this opposite effect may result from a long history linking the respondents to the brands. Most college students start to live independently from their parents for the first time in their life. Some students carry over the brands that they use in the family. This has been established especially for domestic products (Coupland 2005). In this case, even though the respondents claimed that they do not have strong emotional bonding with these brands, they may actually be quite attached to them without being aware of it. This possibility was demonstrated by the exploratory interviews, for example,

> *[I know Kellogg's] partly from my parents because they used to buy them, and it was important to them to have these brands. On the other hand, I used to watch a lot of telly and you see the adverts and sometimes in the adverts you can think, oh, there are other brands. But then again there would be the influence of my parents. Yes, there are other brands, but we like these ones so we are going to stick to these ones.*
>
> [Katie]

However, it is acknowledged that the finding of the opposite effect of feeling on consumer-brand congruence may need more evidence to support its current status by controlling brand halo effects and parental influences.

In summary, the weak support for involvement and feeling may lie in (i) the differences in strength between involvement and feeling, (ii) brand halo effect, and (iii) long brand usage history. However, these conceptual differences do not override the potential problem raised from a methodological issue, i.e. the quasi-experiment design. Conceptually, involvement and feeling have been defined as an internal state at an individual level (Celsi and Oslson 1988; Day 1970; Hansen 1972; Mittal 1988; Zaichkowsky 1985; Zajonc 1980) (Chapter 4.3 and Chapter 4.4). That is to say, involvement and feeling for the same product differ from individual to individual. The quasi-experiment of the current study assumed that the respondents scored the same on the levels of involvement and feeling for each product on the basis of the product pre-test. Although the product pre-test applied a statistical point of view to generalise the levels of involvement and feeling for the selected products, it was unable to guarantee each respondent in the quasi-experiment to have the same levels of involvement and feeling in the same product categories. Therefore, the lack of guarantee of the levels of involvement and feeling may explain why the support for the hypotheses involved involvement and feeling was rather fragile.

Chapter 8.3.1 discussed that minimal effects were found to influence the strength of the relationship between consumer and brand personality. This finding implied that the respondents used the brands in various situations to reflect their self-identities. The reflection of their self-identities was maintained by having a consistent association between the consumers' perceptions of themselves and the brands that they used. On the other hand, this section examined a different issue; that is, how much the brand users 'actually' reflect their self-identities by using the brands. This actual reflection was examined by comparing the similarity between consumer and brand personality – consumer-brand congruence, which looks at how closely the consumers identify themselves with their brands. It accounts for the sum-total (aggregation) of the self and the brand. The actual reflection was evidently influenced by the effect of involvement, while the effect of feeling was minimal. This result indicated that actual reflection depended on the level of involvement (importance or personal relevance) with regard to the products. The more involved the consumers are with the products, the greater the possibility that they rely on the closeness between themselves and their brands of the products to express who they are to themselves as well as to the world. However, these results are provisional before more research are obtained to clarify them. Conceptual re-examination and empirical data are required to settle the possibility of transferring involvement to feeling. A clearer research design is wanted to isolate brand halo effect and the effect of long brand usage history. Finally, the manipulation of the levels of involvement and feeling involving *no* differences raised from the selected products is also necessary to confirm their effects.

8.3.3 The role of experience on consumer-brand congruence

When examining consumer-brand congruence, the study 'accidentally' found that favourability of brand, familiarity with the product, familiarity with the brand, and imagination of the brand as a person did not influence consumer-brand congruence. These variables were controlled because they were believed to influence brand attitude (Alba and Hutchinson 1987; Phelps and Thorson 1991; Raju 1977; Sundaram and Webster 1999), hence, consumer-brand congruence. However, the results disclosed that they did not influence consumer-brand congruence at all. This disclosure may strengthen the belief that an individual is an 'experiencing' subject (Thompson 1995). Thus, whether or not the brands were the most favourite brands was not very important. As long as the respondents use (experience) the brand, the mechanism of identity construction will receive the 'message' (Fennis, Pruyn, and Maasland 2005). The same mechanism may apply to brand and product familiarity.

Consumer-brand congruence indicates the similarity between consumer and brand personality. As discussed in Chapter 2.6 and Chapter 4.5.1, consumer and brand personality derives from the consumer's perception. Perception is the result of learning, and learning is accumulated through experience (Hochberg 1978, p.212-213). This argument, based on the importance of experience in cultivating consumers' perceptions, has been supported by neural psychology and theories of attitude.

In neuroscience, Keysers *et al.*'s (2004) experiments indicated that the experience of 'touch' activated a certain area in the brain to process this experience in order to form perceptions (p.342). When consumers use a brand frequently, the experience may strengthen the positive perceptions of the brand. Therefore, the meanings of the brand can be transferred to the user (McCracken 1989, p.315). Consistently, Fishbein and Ajzen (1975) maintained that experience was a key element in forming attitudes, which usually follows the formation of perceptions (p.217). Positive experience may be acting as a "risk reliever" to reduce various risks entailed with a product (Greatorex and Mitchell 1994, p.674), and, therefore, result in repeated buying behaviour (Ehrenberg 1972, p.222)

> *When I was in my first year, we did some [blind] experiments in halls and we compared Tesco's basics to [other brands of] Jaffa cakes. And people preferred Tesco's. So, I generally go for Tesco's.*
>
> [Clair]

The experience is blended in the social environment (McCracken 1986, p.72). An individual learns how to obtain social acceptance through the process of socialisation (Mead 1934, p.179). Tajfel (1982) argued that each individual belongs to some social groups, which offer him emotional bonding and relevance of the value system (p.31). To belong to a social group, an individual categorises himself into the group by conforming to the group norms (Abrams and Hogg 1990, p.196). When negative experience occurs during social interaction, the individual makes some changes (Cooley 1964, p.172). Since possessions are considered an extended self (Belk 1988), the individual learns how and what to change in his possessions to conform to the group norms when necessary. Over time, he learns to project the image of the brands that he uses to his self-identity.

This projection of self-identity is supported by Mischel and Morf's (2003) "hot" and "cool" processing involved in the self-system (p.27). The hot processing refers to an affect-based processing, which is, in nature, automatic and reflexive. For example, when the individual perceives minimal social acceptance by using a certain brand, the hot processing will engage him to change his perception of the brand. Likewise, when the individual perceives great social acceptance of using a certain brand, the hot processing will make him keep on maintaining his perception (and his use) of that brand. This change or maintenance may be difficult to explain because of the nature of affect-based processing (Mittal 1988, p.504-505).

On the other hand, the cool processing refers to a cognitive-based processing, which is effortful. While consumers' reflection of their personality by using the brand may indicate a hot processing system, consumers' evaluation of the brand personality may demonstrate a cool processing. As a result, the evaluation of brand personality can be the bridge between and hot and cool systems. This argument is in line with what Elliott (1998) referred to as a "post-hoc rationalisation (p.103)". He argued that "When driven by emotion … non-rational preference is formed holistically and faster than cognitive processing, in fact, almost instantly. It may then be followed by attempts at post-hoc rationalisation (p.104)." Therefore, the results implied that the post-hoc rationalisation (a cool processing system) occurred when the respondents mirrored themselves with the brands on the basis of experience, rather than on their favourability or familiarity of the brands.

8.4 Brand relationship

The scale of brand relationship quality has been verified by this study. It was originally developed by Fournier (1994) for her doctoral thesis; however, it may be because it was not publicly available, that the quantitative applications or examinations of the scale have been limited. Park *et al*. (2002) used her scale to examine how far a good brand relationship could stretch atypical claims of a brand. When they re-examined the scale, they found a potential problem. That is, it was difficult to distinguish the three dimensions of behavioural interdependence, personal commitment, and love and passion.

These three dimensions are termed 'emotional bonding' in this study and were particularly examined: both qualitatively and quantitatively. The qualitative results (expert opinions and exploratory interviews) showed that five statements out of fifteen were ambiguous in that they failed the requirement of unidimensionality (Table 6-1, p.162). That is, these five statements may strongly relate to more than one dimension of emotional bonding. After removing these ambiguous items, two CFA results revealed that these three dimensions could be properly distinguished (Table 7-10, p.213 and Table 7-11, p.214). Moreover, the overall scale of brand relationship quality was shown to have good performance in terms of factor loadings, composite reliability, AVE, and various model fit indices (Table 7-12, p.216).

Consistent with the effects of involvement and feeling on consumer-brand congruence, the level of involvement was positively related to brand relationship quality and the level of feeling failed to demonstrate an effect on brand relationship.

Although brand familiarity and favourability of brand did not show any significant relationship with consumer-brand congruence, they did show strong positive relationships with brand relationship quality.

Brand familiarity has been demonstrated to influence brand attitudes (Phelps and Thorson 1991; Phelps and Hoy 1996; Sundaram and Webster 1999). These brand attitudes were unlike brand personality measures. Brand personality refers to a brand person a consumer imagines, and, therefore, the brand person is multi-dimensional. The features (personalities) of the brand can be positive or negative. However, this remains unknown unless the consumer gives an evaluative judgement since, for example, an introverted person can be positive in the eyes of some people, but negative to others. On the other hand, brand relationship quality is similar to brand attitudes. Brand relationship quality involves negative and positive connotations in the low and high scores the consumer attributes. Since brand familiarity in this study referred to the brands that the respondents liked the most or used the most, it was logical to find that brand familiarity has a positive relationship with brand relationship. Similarly, favourability of brand was shown to have a positive relationship with brand relationship. These results implied that, although experience could be as important as perception in cultivating the brand person in relation to the self, the recognition of the brand as familiar and favourite may be more crucial in developing a good brand relationship.

Moreover, brand relationship quality was linked to consumer-brand congruence. As hypothesised, consumer-brand congruence and brand relationship quality were positively correlated. This correlation was not influenced by the levels of involvement and feeling. In other words, regardless of the levels of involvement and feeling, as long as consumer-brand congruence was high, brand relationship was seen as good.

These findings were consistent with the interpersonal relationship theories. Rodin (1978) argued that similarity was a main determinant of liking (p.476), which is an element in an intimate interpersonal relationship (Blumstein and Kollock 1988, p.469). Therefore, an individual is a reflection of those to whom he is close (Cooley 1964, p.184). Following this rationale, Aron (2003) indicated that relationships can be used to develop one's self-identity (p.443). The ways that relationships influence one's self-identity are through behavioural confirmation (Darley and Fazio 1980, p.869) and "the-other-included-in-the-self (Aron *et al.* 2001, p.484)." Behavioural confirmation refers to the process whereby an individual acts to confirm the expectations of others. Although a brand is not able to 'confirm' the behaviour of the brand owner, the brand owner is able to obtain such confirmation from various forms of social intercourse (Bearden and Etzel 1982; Escalas and Bettman 2003; McAlexander, Schouten, and Koenig 2002; Muniz and O'guinn 2001). Moreover, the idea of 'the-other-included-in-the-self' is consistent with Belk's (1988) extended self and James's (1890) material self. The possession of a relationship (or a brand) can be used to reflect the self. Overall, consistent with most research (Fournier 1994, 1998; Fournier and Yao 1997; Ji 2002; Park *et al.* 2002), these results indicated that the notion of brand relationship was supported.

Although the results generally support the concept of brand relationship, the relationship between consumer-brand congruence and brand relationship was not particularly strong (γ=-.12, t=-2.47[6]). Moreover, agreeableness was the only dimension of personality congruence that was positively related to brand relationship quality (Figure 7-5, p.241). A closer examination revealed that, although brand relationship quality was better for the favourable brand users than non-favourable brand users, the mean score of brand relationship quality rated by the favourable brand users was below 2.5 on a 5-point Likert-type scale. This result was similar to the findings of Fournier (1994, p.206) and Park *et al.* (2002). For example, Park *et al.* found that, on a 10-point scale, the mean of brand relationship quality was 3.67 (p.194). The so-called strong brand relationship quality group only scored an average of 4.41. In other words, these findings suggest that consumers may not be able to transfer brand relationship metaphor into interpersonal relationship.

This speculation was in line with Bengtsson's (2003) and O'Malley and Tynan's (1999) argument. For example, Bengtsson found that his respondents had difficulty in stretching their imagination to see that they had interpersonal relationship with their favourable brands. He concluded that when reciprocity was absent, a brand relationship mirroring the interpersonal relationship was difficult to establish. To O'Malley and Tynan (1999), no matter how appealing the relationship metaphor, it may be merely manipulated through 'marketing' language from practitioners as well as from scholars (p.595).

[6] Consumer congruence was calculated on the basis of the difference between consumer and brand personality. Thus, the negative figure shows positive relationship between consumer-brand congruence and brand relationship.

However, the exploratory interviews confirmed that most interviewees were able to describe the ‘relationship’ between themselves and the brands. For example,

> *It’s [Kellogg’s cornflakes] very temperamental. I think if we just had a friendship, it would be a friendship of convenience, where you would drop in and out. If you were going along fine and there were other things to do and other people to see then you wouldn’t go there. On the other hand, if you sort of thought, oh, I would really like to see this person again, then it would always be there to back you up. …I think Primark is like a new friend. It is the kind of friend where you would go there first and they would be able to give you the right sort of advice. It is a very exciting and new friendship, but it’s becoming more steady. … Yes, the relationship is settling down.*
>
> [Katie]

Moreover, the weak relationship quality may result from the fact that the respondents were unaware that they could convert their brand relationship to an interpersonal relationship. The transformation can be unconscious to some consumers (Bargh 1994). For example, when one of the interviewees was asked whether she was attached to her old car, which had crashed in a recent accident, she said,

> *Yes, because when my last one [car] got crashed into, I was really, really upset. And I really wanted to get it repaired. And I went to the garage and they told me it would cost £50 less than the amount I paid for it to fix. So I said, “oh, will you fix it for me then?” And they said, “no, because if we encounter problems, that means it is going to cost more than what it is worth.” So I tried to get them to fix it but I understood what they were saying so it was written off. … I did get attached to it [her old car]. … I was attached to the car … I got my new one… and it’s not the same as the other one [the old car] although it was better and had air conditioning. …Yeah, [I found I was attached to the car] probably after it was crashed. I loved my car when I had it, but I didn’t realise I would miss it.*
>
> [Lauren]

Moreover, some interviewees were found to have difficulty in describing the relationship between themselves and the brands. One of the interviewees named almost everything he owned, but when he was asked why he did that, he could not provide a reason.

Q: Would you think of your car as a person?

A: My car is a he and he's called Bob.

Q: Why Bob?

A: It's just Bob. And I tend to say, hang on, where's Bob, to my housemates.

Q: So, your friends know about Bob?

A: Yeah. They know I refer it to Bob.

Q: Why did you name your car?

A: I don't know… I don't know…

[Robbie]

These examples were consistent with Fournier's (1998) findings. However, Fournier recognised the differences among individuals in providing insight into brand relationship phenomena (p.347). Therefore, it may be possible that the transformation of the relationship metaphor is so subtle that not too many consumers are able to depict it. It may also require the experience of loss of the brand to help consumers recognise the existence of a relationship (e.g. Lauren's case). This speculation was substantiated by the finding that a positive relationship existed between the level of brand relationship quality and how well the respondents could imagine having a relationship with their brands (Table 7-21, p.240). If this is the case, the measurement of brand relationship quality may pose a serious problem as Oppenheim (1992) indicated that the respondents' unawareness of their attitudes could be a main barrier to obtaining a true response (p.211). Therefore, it deserves a re-examination (further research, Chapter 9.4).

8.5 Summary

The main findings in the previous chapter were discussed and theoretical explanations offered. Most hypotheses were supported as expected. The self-identity and interpersonal relationship theories successfully linked the relationship among consumer personality, brand personality, and brand relationship.

Brand personality could be measured by the same means used for consumer personality. By measuring consumer personality and brand personality using the same items, a meaningful relationship between the two could be explored. They were found to positively correlate on each dimension of the Big Five regardless of the product categories. It may explain why consumers use brands in various situations to reflect their self-identities by maintaining a consistent relationship with the brands. On the other hand, when using the sum-total concept to compare consumer personality and brand personality (consumer-brand congruence), it was discovered that the consumers identified themselves more closely with the brands when product involvement was high than when it was low.

The concept of brand relationship was supported by the exploratory interviews and by the positive relationship found between consumer-brand congruence and brand relationship quality. However, the positive relationship was weak and the mean score of brand relationship quality was low. These results suggested that the concept of brand relationship was only weakly supported. A re-examination of the brand relationship quality scale was proposed.

This chapter discussed brand personality, the relationship between consumer and brand personality, and brand relationship by drawing the evidence from exploratory interviews, quantitative results, and self-identity and interpersonal relationship theories. What emerged from this chapter are the theoretical, methodological, and managerial contributions, together with limitations of the study and suggestions for future research. These will be presented in the next chapter.

Chapter 9. Conclusion

9.1 Introduction

The current study investigates the relationship between self-identity and consumption by addressing the conceptual and measurement issues of consumer personality, brand personality, and brand relationship. This study takes the philosophical position of critical realism by applying a quasi-experiment from a field setting. Eleven exploratory interviews were conducted before July 2006, a product pre-test was carried out in October 2006, and 468 respondents were recruited between February and November 2007 for the main experiment. The results generally supported the relationships between consumer personality and brand personality and between consumer-brand congruence and brand relationship.

This chapter is organised by discussing the contributions, limitations, and directions for future research. The contributions of this study are examined from three different perspectives: theoretical, methodological, and managerial. The theoretical contributions are established upon the clarification of consumer personality and brand personality. By linking and measuring consumer personality and brand personality with the same core definition of personality, the respondents were found to use symbolic meanings of the brands to reflect their self-identities. Product involvement was found to influence how closely the respondents perceived that they resembled their brands. Finally, consumer-brand congruence was found to be positively related to brand relationship.

At the methodological level, the study reconciled the measurement issues relating to the self-identities of consumers, resolved the measurement issues of brand personality, and revealed potential problems involved with brand relationship quality. Personality was redefined and repositioned for consumer research. It has been linked to investigation of self-identity. Thus, by applying the concept of personality to brands, this study has clarified that consumer personality and brand personality can be measured by the same personality inventory. On the other hand, the scale of brand relationship quality was shown to be problematic. The problem may result from the fact that some respondents are not aware of their relationship with their brands. The use of the scale is then limited.

Five managerial implications are proposed. The first implication is the use of brand personality measurement in the real world. The second implication is to compare consumer personality and brand personality and to relate this comparison to market segmentation strategies. The third implication is to evaluate and create a favourable brand personality by installing meanings to the brand via marketing and channel activities. The fourth implication discusses the development of brand personality and suggests concentrating on one of the brand personality dimensions to create the brand person. The final implication recommends the use of brand personality in cross-country studies to facilitate global marketing.

In addition to the contributions of the study, the limitations are recognised. Two main limitations are identified: (i) minimal control of the experimental settings and (ii) the limitation of sample size. Finally, the directions for future research are suggested. Future research is encouraged to investigate (i) the extension of brand personality to non brand users, (ii) issues relating to frequent-brand-users and favourite-brand-users, (iii) the interaction effects of product and brand involvement, and (iv) re-examination of brand relationship scale.

9.2 Contribution

9.2.1 Theoretical contributions

Three main theoretical contributions have emerged from this research. The first contribution is the repositioning of consumer personality and brand personality. The second contribution is that consumer use of the symbolic meanings of a brand to construct self-identity has been verified quantitatively. Finally, the contribution moves from a demonstration of the evidence to an understanding of the concept of brand relationship.

The first contribution of the thesis is at the conceptual level. The current study re-conceptualised personality, and, thereafter, brand personality. Brand personality has been applied in marketing to evaluate whether a brand is perceived 'favourably' (Ang and Lim 2006; Freling and Forbes 2005b), because a favourable brand personality is believed to increase purchase possibilities (Freling and Forbes 2005a). Though the concept of brand personality is important to help build brand equity, the existing conceptualisation is ambiguous.

Aaker (1997) defined brand personality as "a set of human characteristics associated with a brand (p.347)." The previous chapters have already demonstrated that her definition of brand personality does not reflect the concept of personality in the literature of psychology (Chapter 4.5.1 and Chapter 8.2). However, no consistent definition of personality can be found in the relevant literature. Inspired by Kassarjain (1971), this study realised that a definition was needed if consumer researchers hope to advance the field of consumer personality and brand personality. Thus, the current study defined personality as an individual's perception of the configuration of his cognition, emotion, and motivation, which activates his behaviour and reflects how he adjusts to the environment by incorporating his life experience.

This definition does not focus on the internal process of personality *per se*. Rather, it focuses on the self-perception of personality. Self-report is a common tool in consumer research, and it represents how consumers perceive brands, products, advertising, and so on. Therefore, this definition can be applied to a study of brand personality. It is the consumer's perception that is of importance in relating the consumer and the brand through self-identity theories. On the basis of this definition, brand personality was found to be able to use the same measurements that were used on consumers. This result leads to a more meaningful comparison between brands and consumers. The consumers can be correlated with the brands on each corresponding dimension, and the distance between consumer and brand personality can be calculated. This quantitative relationship between consumer and brand personality can facilitate the study of self-identity and consumption in relation to other influences, such as brand attitudes, advertising effectiveness, parental influences, or reference group influences.

Aakers' (1997) brand personality and other scales of brand personality developed on the basis of Aaker's definition (Caprara, Barbaranelli, and Guido 2001; Sung and Tinkham 2005; Venable *et al.* 2005) have shown that it cannot be transferred from country to country. On the other hand, the Big Five personality structure has been verified across fifty-six countries (Schmitt *et al.* 2007). Moreover, the current study verified that the Big Five personality structure could be used on consumers as well as on brands. Following this rationale, the Big Five brand personality structure may be carried across different countries with consistent reliability and validity. Thus, cross-country studies will benefit from the conceptualisation of personality and brand personality defined by the current study.

The second contribution comes from advancing the knowledge of self-identity and consumption. The relationship between self-identity and consumption has long been believed to be one of the fundamental reasons for brand choice (Elliott and Wattanasuwan 1998). Although past research has implied the relationship between self-identity and consumption from a qualitative, exploratory point of view (Arnould and Thompson 2005), little quantitative evidence has been properly presented (Chapter 8.3.1). By redefining personality and brand personality, by repositioning brand personality to mirror the core element in personality, by borrowing an appropriate personality inventory, and by using various analysis methods, the study found evidence to support the relationship between self-identity and consumption: the consumers transferred the meanings embedded in brands to their own self-identities. The evidence demonstrated (i) the difference between a regression model and a self-brand congruity model, (ii) the roles of involvement and feeling in self-identity and consumption, and (iii) the role of experience.

The difference between a relationship model and self-brand congruity model can be explained by the different analysis methods employed. Two analysis methods were used. The first method was SEM. An SEM estimates multiple regression equations simultaneously with considerations of the measurement errors of the latent variables (Jöreskog 1979, p.45). Therefore, the interpretation of the standardised coefficients in an SEM is the same as that of regression coefficients. The SEM related consumer personalities to the brand personalities of the respondents' favourite brands (or most frequently used brands). The results showed that the relationships were strong (Figure 7-2, p.223) and consistent across different situations, namely, different levels of involvement and feeling (Table 7-17, p.226). In other words, consumer personality can be used to predict brand personality. The more of a character a consumer has, the more he will expect the brand to have a similar character. This relationship remained consistent regardless of the levels of involvement and feeling.

However, the relationship between consumer and brand personality (e.g. regression coefficients) can be very strong, while the distance between these two variables can be very different. The distance is related to the second analysis method employed: self-brand congruity model, first used by Birdwell (1968) and advocated by Sirgy and colleagues (Sirgy 1982; Sirgy and Danes 1982; Sirgy *et al.* 1991). This model is used to compare the difference (distance) between consumer and brand personality. It indicates how closely the respondents identify themselves with the brands they use.

The consumer-brand congruence was incorporated into the study of involvement and feeling. Although the discussion of involvement and feeling has centred on self (Chapter 4.3 and 4.4), their roles had not been included in the examination of the relationship between self-identity and brand choice. By including involvement and feeling, this study found that involvement had an important influence on the relationship between self-identity and consumers' brand choice. When involvement was high, the respondents perceived high congruence between themselves and their brands. Although the influence of feeling was not obvious, the significant interaction effect between involvement and feeling indicated that the study of involvement alone may not be enough to examine self-identity and brand image. Future studies may need to take both involvement and feeling into account.

Moreover, the role of experience has been verified by this study with regard to consumer-brand congruence. The results showed that the tendency of the respondents to use brands which resembled themselves was not influenced by whether or not the brands were their favourite brands. The level of consumer-brand congruence was similar between their favourite brands and the brands that they used the most often. Experience was shown to be as important as the perception of 'favourite brand.'

Experience is able to trigger the brain to form perceptions (Keysers *et al.* 2004) and attitudes (Fishbien and Ajzen 1975). The experience with the product involves not only the functional attributes but also the social, symbolic benefits embedded in the social environment (McCracken 1986, p.72). Therefore, when relating the brand to a brand person, the user may transfer his daily experience with the brand into the brand person. Since the brand that he uses can be considered a part of his self-identity (Belk 1988), the user may tend to see the brand person as closely resembling himself. Therefore, in such a case, whether or not the brand is perceived as a favourite may not be important. Rather, the experience with the brand can be crucial.

The final contribution was that quantitative, empirical support for brand relationship was found. Brand relationship is a concept that has been developing for approximately ten years: since Fournier (1998) published her classic paper in *Journal of Consumer Research*. Although this paper was an extraction of her Ph.D. thesis in 1994, the general consumer researchers were unaware of the concept until her 1998 paper appeared. Over the past decade, some efforts have been made to apply the concept to consumer behaviour. However, most research work with proper theoretical foundations appeared to be qualitative (Fournier and Yao 1997; Robinson and Kates 2005). Meanwhile, some scholars raised doubts about whether consumers were able to transfer the interpersonal metaphor to brand (Bengtsson 2003).

Since self-identity is often blended with interpersonal relationship (Aron 2003; Aron *et al.* 1991; Cooley 1964; James 1890; Mead 1934; Simpson, Fletcher, and Campbell 2001), brand relationship can be clarified by relating it to consumer-brand congruence. The results demonstrated a positive relationship between brand relationship quality and consumer-brand congruence. This positive relationship supported the notion of brand relationship. It is not just a fancy term that the marketers use. The positive relationship between consumer-brand congruence and brand relationship affirmed that the respondents were generally able to use the brand relationship metaphor.

However, the positive association between brand relationship and consumer-brand congruence was weak, though statistically significant (γ=.12, t=2.47). Moreover, it was noted that the mean score of brand relationship quality was below 2.5 on a 5-point Likert type scale. This low mean score, in a way, confirmed some of the researchers' (Bengtsson 2003; O'Malley and Tynan 1999) concerns that it may be difficult for some consumers to use the interpersonal relationship metaphor on brands. Conceptually, the concept of brand relationship has been supported by past research (Fournier 1994, 1998; Fournier and Yao 1997; Ji 2002; Park, Kim, and Kim 2002) and by most of the data from this study (exploratory interviews and the positive relationship between brand relationship and consumer-brand congruence). The weak findings of this study, though statistically significant, remind future researchers to be cautious when applying the scale of brand relationship quality. Meanwhile, they encourage a re-examination of this scale (Chapter 9.4).

9.2.2 Methodological contributions

Three main methodological contributions were made by this study. The first contribution is that the study reconciled the measurement issues relating to the self-identities of consumers. The second contribution is that the measurement issues of brand personality have been clarified by the study. Finally, the study revealed possible problems of the scale of brand relationship quality.

The first and second contributions are intertwined because the measurement issues of consumer self-identity and brand personality closely link with the issues this study deals with: self-identity and consumption (brand choice). By repositioning personality and redefining brand personality, the study proposed to use the same personality inventory to measure consumer personality and brand personality. The results showed that they could be measured by the same measurement items.

The methods of early quantitative studies on self-identity and consumption contained potential risks. First, if the study compared consumer and brand on the basis of image, the measurement items of image were from brand image, rather than the consumers' self-image (Belch and Landon 1977; Bellenger, Steinberg, and Stanton 1976; Birdwell 1968; Dolich 1969; Grubb and Hupp 1968; Grubb and Stern 1971; Hughes and Guerrero 1971; Landon 1974; Malhotra 1981; Munson and Spivey 1980; Ross 1974; Sirgy and Danes 1982; Sirgy *et al.* 1991). Thus, different measures were extracted for different brands. Moreover, brand image is considered limited, compared with an individual's self-image. It is doubtful whether measurement items from brand image are able to embrace the individual's self-image. However, constrained by early "equivocal" results of consumer personality (Kassarjian 1971, p.415), many contemporary researchers preferred not to use personality. On the other hand, other work (Escalas and Bettman 2005) preferred to use straightforward methods to examine the relationship between self-identity and consumption, for example, by asking the respondents whether the brand reflects who they are. This straightforward method has its merit in that it values consciousness. However, consciousness may work on products with high involvement, but not on those with low involvement. This study settled the conceptual issues relating to personality and brand personality. It used the core element in personality and successfully measured consumer personality and brand personality with the same personality inventory. Therefore, the comparison between consumers and brands has been brought to a level of theoretical meaningfulness.

The third contribution comes from the findings of brand relationship quality, which gained support from self-identity and interpersonal relationship theories. James's (1890) self-identity refers to the material self, which includes all tangible and intangible possessions (such as interpersonal relationships). Belk (1988) viewed these possessions as an extended self and they are used to reflect one's self. Accordingly, relationships are seen to be part of the self (Aron 2003, p.443). Consistent with this rationale, the study revealed that brand relationship quality was positively related to consumer-brand congruence. The closer the consumer identified with the brand, the better the brand relationship he perceived.

However, although the findings (both quantitatively and qualitatively) supported the concept of brand relationship, it was noted that the support was weak. This weak support cautioned against the use of the current scale of brand relationship quality. Though it is a valid scale and was further clarified by the current study, it should be used with care. The brand relationship metaphor can be difficult for some consumers to articulate. Moreover, the most important issue may be the consumers' unawareness of the existence of a brand relationship which resembles an interpersonal relationship (in the case of Lauren, Chapter 8.4, p.271-272). This unawareness can be regarded as a main barrier in the measurement of brand relationship quality

(Oppenheim 1992, p.211). As a result, if this scale is applied, it is noted that the score of brand relationship quality may be underestimated.

9.2.3 Managerial implications

The current study has contributed to the managerial applications of brand personality. These applications cover five main areas. The first implication is the use of brand personality measurement in the real world. The second implication is to compare consumers and brands and relate this comparison to market segmentation strategies. The third implication is to evaluate and create a favourable brand personality by installing meanings to the brand via marketing and channel activities. The fourth implication discusses the development of brand personality and suggests concentrating on one of the brand personality dimensions to create the brand person. The final implication recommends the use of brand personality in cross country studies to facilitate global marketing.

The first implication is the measurement of brand personality. It was found that a scale of brand personality can be used generally. There is no need to develop different scales for different contexts, as some researchers have done (Aaker 1997; Caprara *et al.* 2001; Venable *et al.* 2005). Moreover, there is no need to develop a brand personality scale; choosing a suitable personality inventory from the psychology literature will be good enough. For marketing practitioners, it may save much money and time.

When a personality inventory is chosen to investigate brand personality, the same inventory can also be applied to investigate the consumers. The study demonstrated that consumer personality and brand personality could be measured by exactly the same measurement items. This result leads to the second implication of brand personality. By using the same measurement to examine consumer personality and brand personality, marketing practitioners are able to compare consumers and brands. The results showed that consumers tended to maintain a consistent identity relationship with their brands. Knowing what identity relationship the consumers wish to maintain, the practitioners can develop their brand image towards that direction. Thus, in addition to the traditional segmentation tools (such as demographics), the marketers are encouraged to examine the psychological characteristics (such as personality) of their target consumers. Moreover, it is recommended that marketing communication pays attention to the identity relationship between their target consumers and the brands.

The third managerial implication concerns the definition of favourable brand personality. Past research has implied that finding a 'favourable' brand personality is of utmost importance in building a brand. However, the current study verified that a favourable brand personality varied from consumer to consumer. In this sense, a brand company does not need to focus on the long-believed 'preferred' brand personality because it may not universally exist. On the other hand, the brand company is encouraged to focus on how consumers create or perceive the brand meanings.

Consumers transfer the meanings underlying the brands through social interaction (McCracken 1986). These meanings are created mainly through three channels. The first channel is marketing communications, such as adverts. Consumers learn how to perceive a brand through the message delivered by adverts or other marketing activities. The second channel is through collective perception of a brand through social interaction (Mitchell, Macklin, and Paxman 2007; Ritson and Elliott 1999). The final channel is through the use of the brand, and this brand usage can create experience for the functional and social (symbolic) aspects. When consumers perceive social acceptance through using and discussing the brand, a positive experience will be generated to maintain the usage and to perceive the brand in the direction of collective thought. Thus, marketing practitioners can utilise these three channels to maximise consumers' experience. This maximisation can be achieved by increasing the 'touch' of the brand via sampling and via channel (retailer) activities. Moreover, a brand community or discussion forum can be used as a venue to share and enhance the positive experience.

The fourth implication is that the brand company can focus on one of the personality dimensions to cultivate its brand personality. The findings suggested that strong inter-dimensional relationships appeared in brand personality (Table 7-15, p.222). These findings implied that consumers' tendency to imagine the brand as a person derived from various sources. The strongest dimension may be used to relate to other dimensions. As a result, although it is helpful for the consumers to imagine the brand person by depicting the brand person as completely as possible, it may be more cost effective to stress one or two key elements of the brand person.

The final implication of brand personality is that the brand company can use brand personality, defined by this study, to conduct cross country studies. Global marketing is an important phenomenon in the creation of international business and in maintaining cost effectiveness. For example, fewer and fewer advertisements are tailored to one particular country. The brand company uses its global strength to create global marketing activities that can be applied in various regions. Thus, the examination of effectiveness of global marketing is critical to the success of the company's global brand strategy. The Big Five personality structure has been verified across fifty-six countries (Schmitt *et al.* 2007). If brand personality follows the definition of personality, the same structure for brand personality may be discovered in different countries. Therefore, a regression model and a consumer-brand congruence model can be established across different countries. These models can be used as indices to assess the effectiveness of the global brand strategy in different countries.

9.3 Limitations

Like all other research, the current study contains some limitations. Two main limitations are identified. The first limitation is the lack of control of the experiment. The second limitation is concerned with the sample size and analysis methods.

Four features of the experiment design received minimal control. First of all, the manipulation of involvement and feeling involved in the selection of the focal products was not rigorous. Secondly, the level of brand activity in the chosen focal products was not controlled. Thirdly, the possibility of carry-over effects between consumer personality and brand personality was not considered. Finally, the methods to select the samples were not consistently followed through in the environments where the respondents filled in the questionnaires.

The focal product categories were chosen, in part, on the basis of the FCB grid. Different products were used to represent different levels of involvement and feeling. Research has shown that, though involvement is at an individual level, involvement with a certain product is generally quite similar across different individuals with similar background or demographic profiles (Ratchford 1987). Thus, a product pre-test was carried out to minimise the effect. The product pre-test selected four products to represent each quadrant of the dimension composed of involvement and feeling.

However, it may be argued that the difference may have resulted from product difference, rather than the different levels of involvement and feeling. It is recognised that involvement and feeling is at an individual level, not at a product level. That is to say, different individuals perceive different levels of involvement and feeling for the same product. Failure to manipulate the levels of involvement and feeling appropriately may have been responsible for the rejection of the related involvement (H6, H7b, and H7d) and feeling (H9 and H10) hypotheses regarding consumer-brand congruence and brand relationship quality.

While choosing the focal products, the research design did not pay attention to the possible differences raised by varying intensity of brand activity. According to the definition of brand personality, brand personality is “a consumer’s imagination (perception) of the personality a particular brand possesses. Brand personality describes the inner characteristics (i.e. the configuration of cognition, emotion, and motivation), which are conveyed through the individual's experience with the brand and the brand identity (p.113)." The construction of the perception of brand personality relies on the consumer's imagination to personify the brand. The sources which enhance the consumer's imagination involve close observation with the brand, such as the usage experience with the brand and various brand activities from the brand company. The usage experience was controlled by having the respondents rate their favourite brands. However, the intensity of brand activity was not included in the product selection. This lack of consideration may have rendered the results of the study unreliable. For example, it may account for the similar consumer-brand congruence level between washing-up liquid (low feeling – low involvement) and laptop computers (low feeling – high involvement) (H7d).

When designing the experiment, the possibility of carry-over effects between consumer personality and brand personality was not considered. The respondents were asked to rate the brand personalities of their favourite brands immediately after they rated their own personalities. However, the measurements for consumer personality and brand personality were the same; one focused on an explicit object (i.e. the consumer), but the other focused on an implicit object (i.e. the brand). When the respondents rated their own personalities, imagination was not required. However, when the respondents rated the personality terms on their favourite brands, imagination was needed to transfer the personality metaphor to the brands. There was a possibility that the respondents projected their own personalities to brand personalities since the research design did not include any activity to shift their attention between their rating consumer personality and brand personality. This neglect may have been accountable for the finding that the personality measurements worked on brands (H1) and for the positive relationship found between consumer personality and brand personality (H2).

The experiment featured a final lack of control; that is, the sampling method. The samples were drawn from the University of Warwick between February 2007 and November 2007. Although the randomness of sample choice did not cause theoretical concerns (Chapter 6.3.1), the lack of control of the environment in which the respondents filled out the questionnaires may have biased the results. The respondents filled in the questionnaires in various environment settings, for example, sitting in the classroom, in the departmental common room, or at home. The author did not have control over the environment settings and was unable to prevent the respondents from 'discussing' their questionnaires. In the classroom settings, the respondents were quite well-behaved because a classroom setting simulated a laboratory setting. However, the author used the break-time between the lectures to collect data, and since the respondents were not obliged to participate in the research, it was impossible to avoid their leaving the classroom (for example, for trips to the toilet) or chatting with each other. Moreover, the majority of the research participants collected the questionnaires from their pigeon holes. For those participants, the environments in which they filled in the questionnaires may have been even more diverse.

However, after talking to some of the respondents immediately after they had filled in the questionnaires, the author found that the respondents did not realise what the true research objective was. Therefore, the responses may not have been distorted. Because of the constraints of time and finance, the author was unable to further purify the experiment setting. This is also an inherent disadvantage of field experiments (Harrison and List 2004) and it is recognised.

The second limitation of the research is concerned with the sample size and analysis methods. The sample size of the main study was 468 in total. Although the number, 468, seems to represent a large sample, it had to be divided into four different product groups (high/low involvement x high/low feeling). Furthermore, when the study further controlled other variables (i.e. favourability of the brand), the sample size per group was reduced to as few as forty-six (Table 7-16, p.224). Considering the number of parameters to be estimated, the study did not have a large enough sample size to further validate the results claimed by the study.

It is noted that sample size is related to differences in analysis methods. Some methods (such as SEM) require at least 200 samples to generate robust results (see p.181-182), others (such as ANOVA) do not need a massive sample size (see p.187). One of the key advantages in applying an SEM is that it takes the measurement errors into account. However, a different method, which also considers the measurement errors and requires far fewer samples, has been identified; that is PLS (Partial Least Square) (Chin 1998). If PLS had been applied, the samples could have been split into two sets, and one of the sets could have been used to validate the results. However, the software needed to conduct PLS is not yet publicly available. By the time the author obtained a licensed copy of PLS, it was mid-May 2008. Because of time constraints (learning another software and re-analysing the results), the study relied on SEM, ANOVA/ANCOVA, and regression analysis.

9.4 Directions for future research

Four directions for future research have appeared. The suggestions for future research include (i) the extension of brand personality to non brand users, (ii) more insight is needed into frequent-brand-users and favourite-brand-users, (iii) the interaction effects of product and brand involvement, and (iv) the re-examination of the brand relationship scale.

The first suggestion for future research is to extend the brand personality concept to non brand users. The current study suggests that brand personality is a metaphor; therefore, to successfully transfer the metaphor to brand, a close observation is needed. However, the results showed that no relationship was detected between consumer-brand congruence and whether or not it was easy for the respondents to imagine the brands as people (Chapter 7.5.2). These results may suggest that the brand personality metaphor can be easily applied. Thus, it is of interest to discover whether the metaphor can be transferred to non users. If it can be transferred, then the value of consumer-brand congruency is increased. So far, the research has focused on favourable and most-frequently-used brands. It was assumed, and supported, that the respondents use their brands to construct their self-identities. However, this support may be further substantiated by the fact that consumers do *not* identify with the brands that they do not use. Moreover, the discrepancy is expected to increase if the brand is a consumer's least favourite brand.

The second suggestion for future research is to examine the effect of 'experience.' The results showed that 'experience' with the brands appeared to be as important as the perception of a favourite brand in terms of identity construction. Although the respondents claimed that the brands that they most frequently used were not favourite brands, they, probably unconsciously, identify themselves with the brands. Affection has always been viewed as a very important element in identifying oneself. For example, Cooley (1964) indicated that positive feelings after certain behaviour would reinforce the behaviour, whereas negative feelings would modify the behaviour. Although most-frequently-used-brands may not necessary indicate positive feelings, the effect of negative feelings is supposed to be minimal. The perceived-favourite-brand users should have more positive feelings than the most-frequently-used-brand users. However, the affection did not translate into consumer-brand congruence. Thus, it is a question of whether experience plays a role, since the most favourite brand may not be the brand that is used most frequently. For example, two of the interviewees claimed that they would buy *Lamborghini* if they could afford it. It was their favourite brand, but they never drove it. In this sense, the favourite brand may be blended into ideal self. More insight is needed. Further research can examine consumer-brand congruence by distinguishing most-frequently-used-but-not-favourite-brands, most-favourite-but-not frequently-used-brands, and most-favourite-and most-frequently-used-brands. The findings will be of value in contributing knowledge to identity theories and consumption, and offer solid direction for marketing practitioners.

The third suggestion for future research is to examine the interaction effect of product involvement and brand involvement in terms of consumer-brand congruence and brand relationship. The results suggested that the effect of feeling was minimal, while the effect of involvement was strong and significant. The research focused on product involvement; however, there may be an interaction effect between product and brand involvement. For example, a computer geek may be highly involved with computers, but not necessarily be involved with a particular brand. A brand pursuer may be involved with a certain brand of a product category, but may not know too much about product information. This sense of brand involvement was inspired by two of the respondents of the low-involvement-low-feeling group (washing-up liquid) indicating their brand as Ecover because they had a medical condition (sensitive skin). Thus, even individuals with low product involvement may have special concerns which lead them to be more involved with the brands. It will be interesting to examine the interaction effect on consumer-brand congruence and brand relationship.

The final suggestion for future research is to re-examine the brand relationship quality scale. The results showed that the respondents needed to consciously imagine having a relationship with the brand in order to obtain a higher score. The brands that the respondents evaluated were either their favourite brands or their most frequently used brands. In this sense, the scores for brand relationship quality were supposed to show good relationship if the relationship metaphor worked. However, it was found that the average score was below 2.50 on a 5-point Likert-type scale. Similar results also appeared in Fournier's (1994) and Park *et al.*'s (2002) studies. Nevertheless, according to self-identity theories and interpersonal relationship theories, a positive relationship between consumer-brand congruence and brand relationship was found by the study. Thus, the concept of brand relationship was supposed to be supported by the evidence and theories. However, Bengtsson (2003) brought attention to the difficulty of transferring the relationship metaphor to brands. In fact, the study found that the respondents did need some 'imagination' to transfer this metaphor. If imagination is needed, then this metaphor may not be suitable to use for every occasion. However, the exploratory interviews revealed that, actually, consumers were able to use the metaphor when a suitable event occurred to trigger the simulation (Chapter 8.4, p.281-282). If consumers have difficulty in consciously 'imagining' brand relationship, it may be helpful to investigate their behavioural patterns to discover whether an interpersonal relationship is mirrored.

Meanwhile, Diamantopoulos and Winklhofer's (2001) suggestion on the distinction between formative and reflective scales raised the issue that whilst relationship is indeed a multi-faceted construct, whether the multi-facets result from a formative nature or a reflective one is, as yet, uninspected. On the other hand, by demonstrating coffee drinkers' lows and highs reflecting in the dimensions of brand relationship quality, Fournier and Yao (1997) seem to have offered an answer. By definition, if a construct is reflective, then the dimensions of this construct should be positively correlated; in other words, when one of the dimensions changes, the other dimensions should move in the same direction. On the other hand, if a construct is formative, the dimensions do not necessarily correlate with one another. That is to say, in a formative scale, the dimensions need not to be transferable. For example, when a business relationship is developed, the best possible business relationship should be built upon trust. However, this trust does not necessarily transfer to love and passion. Thus, by re-examining the brand relationship quality scale, one may be able to distinguish the type of relationship the consumers have with their brands. Information on types of relationship can help the market practitioners to understand the relationship their consumers have with the brands, for example, whether it is just as a business partner, a romantic lover, or a parent. Different types of relationships have developed different streams of research in sociology, anthropology, and social psychology. Thus, vast literature from different areas is available for consumer researchers to investigate further without starting everything from scratch.

9.5 A closing remark

This study has re-positioned personality in consumer research and contributed knowledge to self-identity theories with regard to consumption. It widens the view on self-identity and consumption by incorporating the concept of brand relationship. This concept was generally supported, but weakly, by the study. For example, the level of brand relationship was low, even for the favourite brands, and a weak, though statistically significant, magnitude of the relationship existed between consumer-brand congruence and brand relationship. These results increased the doubt whether the relationship metaphor can be *measured* for brands. However, the inspiration of the research has provided a promising direction for future study.

The study showed that, by using the personality inventory, brand personality was able to be measured with validity and reliability. By linking consumer personality and brand personality, it found that the respondents did use their brands to construct or reflect their identities. The magnitude of the relationship between consumer personality and brand personality and between consumer-brand congruence and brand relationship was not influenced by the level of involvement or by the level of feeling. Although involvement influenced consumer-brand congruence and brand relationship individually, the associations between the constructs were not influenced by involvement. This further implies that consumers' use of brands to construct or reflect their identities is a multi-dimensional activity. Thus, each dimension is used by the consumers to maintain the 'wholeness' of the identity.

Chapter 10. Personal Reflections

"If I have seen a little further it is by standing on the shoulders of giants." This is a famous quote extracted from Isaac Newton (though the first use of "standing on the shoulders of giants" was attributed to Bernard of Chartres, a twelfth-century French philosopher). After completing this thesis, I feel like I am still trying to climb up to the shoulders of giants; maybe now, I am at the height of the giants' knees.

I started off this Ph.D. with complete confidence (or ignorance!), thinking that I was going to be one of the giants, and that I was going to conquer the intellectual world. This ignorance led me to be over-ambitious, and, therefore, I made two main mistakes (and countless tiny mistakes) during the process. The first mistake was my insistence on studying personality. Personality was an attractive topic to me in that it was studied by many consumer researchers in the 1960s and 1970s. Since the results were disappointing and since I deeply believed in the influence of personality, I saw an opportunity to 'correct' the mistakes of past researchers and find encouraging results. However, I ignored the fact that there were reasons that these researchers did not find promising results. The main problem with personality research is measurement. Personality measures are usually lengthy. If the number of the items in the personality measures is reduced, the problems of reliability and validity emerge. Early consumer researchers were criticised for shortening and modifying the measures. However, I was naïve and thought, "It's all right; I'll use the full scale then." I forgot that I needed to measure more than personality; I needed to examine the influence of personality on consumer behaviour. By using a full scale containing forty items (although I used the shortest personality inventory) and the measures of other constructs (brand personality and brand relationship), the study demanded a large sample size in order to examine the relationships that I wanted to examine.

My being over-ambitious and my attempt to minimise the required sample size led to my second mistake, the experiment design. A neat experiment is supposed to have one purpose and, by using several neat experiments, a clearer result can be found. Experiments can also be used in a sequential manner. The follow-up experiments can be used to clarify the speculations found in the previous experiments. I used an experiment design, but I treated it as a survey and attempted to include as many variables as possible because I feared that I would have difficulties in recruiting enough subjects to ensure reliability and validity. Moreover, I was obsessed with using a 'more sophisticated' analysis method (such as SEM) without realising that I still did not have enough samples after controlling some variables, and that I had to use single indicators (such as consumer-brand congruence), which rendered SEM unnecessary.

If starting again, I would not be over-ambitious. I would concentrate either on consumer personality and brand personality or on brand relationship, although there is a good chance that I would study a different topic after appreciating more the merits of the previous research. In terms of research design, I would split one experiment into at least four studies. The first study would be used to verify the measurement models, particularly to isolate the possible carry-over effects between consumer personality and brand personality. The second study would include the variables of involvement and feeling, instead of using products to assume the respondents' level of involvement and feeling. The third study would control the level of brand activity intensity. The fourth study would be used to clarify the findings of the previous studies. By so doing, the research design would be sounder and the findings could be more legitimately claimed.

I came to realise, after conducting my research, that 'there is no such thing as perfect research'. While conducting a perfect research is ideal, recognising limitations to conducting research is equally important. Despite these many mistakes that I made, this four-year journey to the Ph.D. has been worthwhile. At the technical level, I experienced quantitative research design and learnt to analyse relevant data. I understand that while numbers are able to provide evidence to a yes-or-no question (i.e. hypothesis), words are able to offer a rich understanding and explanation (i.e. data from the exploratory interviews). Quantitative and qualitative studies are meant to complement each other, rather than competing with each other. At the conceptual level, I have learnt not only to be critical of others, but also to question myself. Most importantly, I have learnt the meaning of acknowledging and appreciating the value of previous research. Any major breakthrough in knowledge is accumulated through numerous research efforts. Finally, at the personal level, I became more aware of my own strengths and weaknesses. I learnt how to motivate myself, how to deal with frustration, and how to enjoy life. These technical experiences, conceptual development, and self-understandings will help me not only cultivate better research, but also develop a healthy personal and professional life.

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Appendix 1. List of Abbreviation

A

ADF: Asymptotically distribution free

AGFI: Adjusted goodness-of-fit index

AMOS: Analysis of moment structures (an SEM software package)

ANCOVA: Analysis of covariance

ANOVA: Analysis of variance

AVE: Average variance extracted

B

BRQ: Brand relationship quality

C

CFA: Confirmatory factor analysis

C.I.: Confidence interval

E

EFA: Exploratory factor analysis

EM: Expectation maximization

G

GFI: Goodness-of-fit index

GLS: Generalised least squares

I

IFI: Incremental fit index

L

LISREL: Linear structural relations (an SEM software package developed by Jöreskog and Sörbom)

M

MAR: Missing at random

MCAR: Missing completely at random

ML: Maximum likelihood

MNAR: Missing not at random

N

NFI: Normed fit index

NNFI: Non-normed fit index

P

PLS: Partial least square

R

RFI: Relative fit index

RMSEA: Root mean squared error of approximation

S

SRMR: Standardised root mean residual

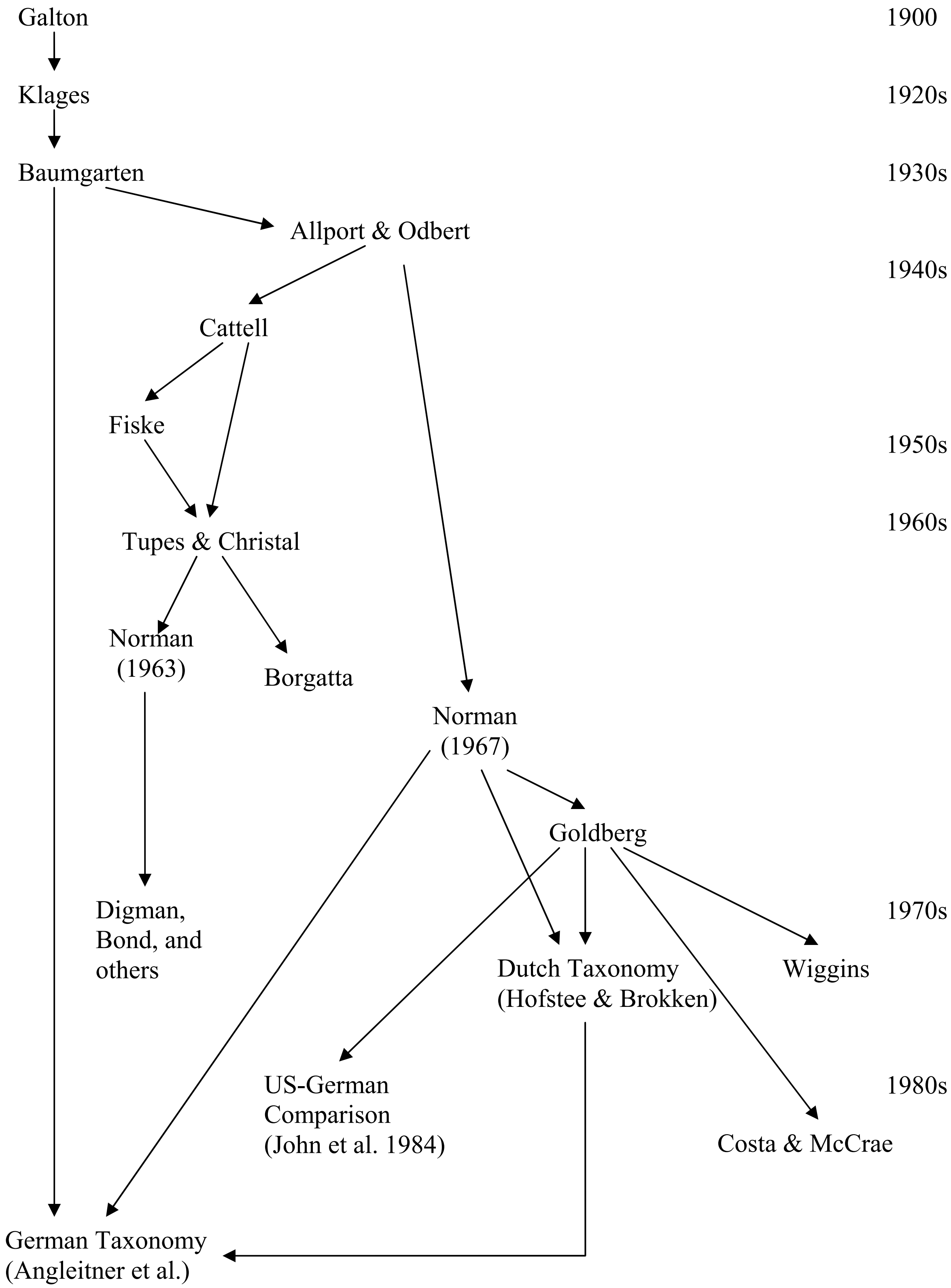
T

TLI: Tucker-and-Lewis index

W

WLS: Weighted least squares

Appendix 2. The History of Lexical Research on Personality Taxonomies



Extracted from: John, Oliver P., Alois Angleitner, and Fritz Ostendorf (1988), "The Lexical Approach to Personality: A Historical Review of Trait Taxonomic Review," *European Journal of Personality*, 2 (3), 171-203., p.177

Appendix 3. Data Analysis for Product Pre-Test

The original data coding of involvement and thinking-feeling was from -5 to 5, with 0 as the neutral point. For the ease of data handling, a range from 1 to 11 was adopted, with the number of points remaining unchanged. Following the same rationale, the data for familiarity of the brands were recoded thus: from 1, very unfamiliar, to 5, very familiar (the original coding was from -2, very unfamiliar, to 2 very familiar). After recoding the variables, a data screening procedure suggested by Tabachnick and Fidell (2007) to purify data prior to analysis was carried out (p.106). This procedure included (i) the examination of accuracy of data input, (ii) missing data analysis, and (iii) examination of distribution and outliers, and was processed separately by product group.

First of all, the data set was screened for the accuracy of data input. In addition to manual verification of the data, the descriptive statistics and histograms were generated to double-check whether the ranges of data were plausible as originally coded. After eliminating possible mistakes from data input, an analysis for missing data was carried out (Tabachnick and Fidell 2007, p.60).

Little's MCAR test was applied to analyse missing data (Chapter 6.5.1, p.25-26). The result revealed that the values missing completely at random (MCAR) can be inferred ($\chi^2_{df=366}$: 367.642, p > .05). MCAR indicates that the distribution of missing data is unpredictable. As a result, this type of data does not influence the results of the analysis (Tabachnick and Fidell 2007, p.63); the choice of methods for estimating missing data was not critical. An expectation maximization (EM) method was used to estimate the missing values.

A normality test was conducted after the missing data analysis (Chapter 6.5.1, p.27-28). It was examined by the levels of skewness and kurtosis in combination with visual inspection of histograms and box plots. The results showed the violation of normal distribution and the presence of the outliers was not serious. In order to preserve as much of the data as possible, the outliers were retained (Barnett and Lewis 1994, p.36; Clark 1989, p.41; Hair *et al.* 1998, p.66). Before the main product pre-test, it was necessary to ensure the measurements were equivalent between different groups. The car was rated by all the groups, so a one-way ANOVA was used on the car ratings of each group to examine the group variance. With the *p*-values ranging from .49 to .99 ($F < .90$), the one-way ANOVA showed that the groups were similar ($p > .05$). This similarity enabled further analysis to combine and compare the ratings across different groups.

Cronbach's alphas were calculated to test internal reliability. The three Cronbach's alphas were all above .70 (Cronbach's $\alpha_{\text{involvement}} = .91$; Cronbach's $\alpha_{\text{thinking}} = .84$; Cronbach's $\alpha_{\text{feeling}} = .79$), the cut-off point suggested by Nunnally and Bernstein (1994, p.265). When calculated by each product category, the Cronbach's alphas ranged from .51 to .92 (Table A3-1). The low Cronbach's alphas could have resulted from the low number of measurement items and low number of observations: which was less than thirty-two.

Table A3-1 Cronbach's alphas for the measurements in the product pre-test

		Dimensions		
		Involvement	Think	Feel
Overall Cronbach's α		.91	.84	.79
By products	N			
Cars[NB1]	30~31	.57 ~ .76	.65 ~ .85	.57 ~ 78
Banks	31	.83	.91	.94
Jeans	30	.82	.60	.79
Digital cameras	31	.79	.65	.85
Notebook computers	30	.85	.83	.53
Desktop computers	31	.70	.58	.81
Soaps	30	.83	.91	.71
Mobile phones	30	.72	.88	.58
Washing-up liquids	31	.87	.59	.61
Shower gels	30	.86	.91	.72
Snacks	30	.89	.87	.66
Beers	31	.88	.67	.87
Washing powders	30	.92	.51	.78
Shampoos	31	.81	.87	.72
Underpants	30	.70	.75	.69
Soft drinks	30	.83	.74	.56

NB 1: The product, car, was included in all five sets of questionnaires. The Cronbach's alphas were calculated for each questionnaire set.

NB 2: Over 85% of the Cronbach's alphas with a value above .60.

The EFA with a Varimax rotation showed that the eight measures loaded on three factors. The factor loadings were all above .70 and variance extracted was above 80% (Table A3-2). The CFA also demonstrated a good fit of the three-factor model. Table A3-3 displays the results of the CFA and shows that the factor loadings (λ) ranged from .54 to .93. The composite reliabilities were above .80 and the average variances extracted (AVE) were above .50. They met the criteria (.60 for the composite reliability and .50 for AVE) set by Bagozzi and Yi (1988, p.80) and Fornell and Larker (1981, p.46). Moreover, the various model fit measures conformed to the model fit criteria (Chapter 6.5.3, p.43-44). In summary, the data were well presented for further analysis.

Table A3-2 Exploratory factor analysis on product dimensionality for the product pre-test

	Factor Loadings		
	Involvement	Feel	Think
1. Little thought – a lot of thought	.87		
2. Very unimportant – very important	.86		
3. Little to lose – a lot to lose	.80		
4. Not based on looks etc. – based on looks etc.		.87	
5. Little feeling – a lot of feeling		.79	
6. Not expressing one's personality – expressing one's personality		.75	
7. Not mainly on functional facts – mainly on functional facts			.89
8. Not mainly logical – mainly logical			.87

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization
Total variance extracted: 81%

Table A3-3 Confirmatory factor analysis on product dimensionality for product pre-test

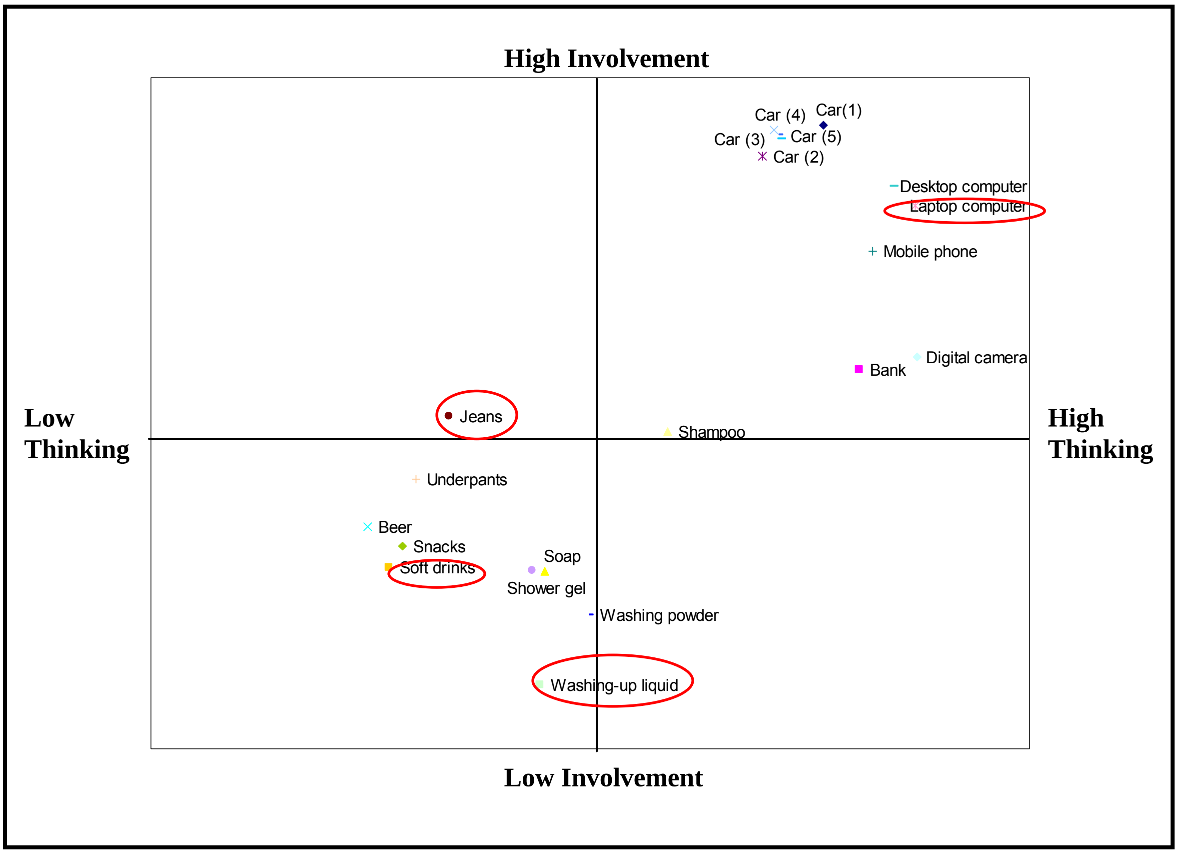
	Factor Loadings (λ)			Composite Reliability	AVE (Average Variance Extracted)
	Involvement	Thinking	Feeling		
Little thought – a lot of thought	.93				
Very unimportant – very important	.87				
Little to lose – a lot to lose	.83				
Involvement				***.91***	***.77***
Not based on looks etc. – based on looks etc.		.54			
Little feeling – a lot of feeling		.90			
Not expressing one's personality – expressing one's personality		.83			
Feeling				***.81***	***.59***
Not mainly on functional facts – mainly on functional facts			.83		
Not mainly logical – mainly logical			.87		
Thinking				***.84***	***.72***

Model fit indices –
χ^2 = 93.42, df = 17, *p*-value = .000; SRMR: .063; RMSEA: .086 (90% C.I.:[.069,.10]); TLI: .97; CFI: .98

However, the CFA result confirmed Putrevu and Lord's (1994) speculation that 'thinking' and 'feeling' may not be on each pole of the same dimension (p.79).

The results indicated that thinking and feeling were two different dimensions. Moreover, the results did not identify involvement as a cognitive dimension 'thinking,' as Putrevu and Lord suggested. On the basis of Ratchford's (1987) measurement, involvement, thinking, and feeling were three different dimensions. A visual inspection was then performed. Two diagrams, involvement versus thinking and involvement versus feeling, are displayed in Figure A3-1 and Figure A3-2.

Figure A3-1 Two-dimensional (involvement versus thinking) plot for the product pre-test



The figures showed that the levels of feeling of some products were similar to their levels of thinking, for example, cars and mobile phones. Four products, situated at the extreme of each quadrant in Figure A3-2, were selected for further examination of whether the undergraduate students consumed or possessed the products and how familiar they were with the brands in the product categories. However, it was found that only about 40% of the undergraduate students owned a car. Thus, it was replaced by the second extreme product category, jeans. The frequency results suggested that more than 85% of the respondents consumed or possessed the selected products (ranging from 85% to 100%) and that more than 65% were familiar with the brands of the product categories (ranging from 65% to 100%). The laptop computer category was chosen for high involvement and low feeling, the washing-up liquid for low involvement and low feeling, the jeans for high involvement and high feeling, and the soft drinks for low involvement and high feeling. These four products were the four stimuli in the main experiment.

Figure A3-2 Two-dimensional (involvement versus feeling) plot for the product pre-test

Appendix 4. Sample Questionnaire of the Product Pre-Test

Dear Participants,

I am a research student at Warwick Business School and conducting research on consumer purchase decisions. I would like to explore the differences in purchasing various products. This questionnaire includes 4 different products – a car, banking services, soap, and beer.

All information you provide is confidential and will only be used for academic purposes. This questionnaire will take about 5 min. to complete. Thank you very much again for your time and help.

Sincerely,

Hazel Huang
Doctoral Researcher
Warwick Business School
Email: hazel.huang04@phd.wbs.ac.uk

Product: Car

Do you have a car? ☐ Yes ☐ No

To you, a decision to purchase a car is …

Very *un*important purchase decision	Very important purchase decision

-5 -4 -3 -2 -1 0 1 2 3 4 5

Decision requires *little* thought	Decision requires a lot of thought

-5 -4 -3 -2 -1 0 1 2 3 4 5

Little to lose if you choose the wrong brand	A lot to lose if you choose the wrong brand

-5 -4 -3 -2 -1 0 1 2 3 4 5

Purchase decision is *not* mainly logical / objective	Purchase decision is mainly logical / objective

-5 -4 -3 -2 -1 0 1 2 3 4 5

Decision is *not* mainly on functional facts	Decision is based mainly on functional facts

-5 -4 -3 -2 -1 0 1 2 3 4 5

Purchase decision does *not* express one's personality	Purchase decision expresses one's personality

-5 -4 -3 -2 -1 0 1 2 3 4 5

Decision is based *little* feeling	Decision is based on a lot of feeling

-5 -4 -3 -2 -1 0 1 2 3 4 5

Decision is *not* based on looks, taste, touch, smell or sound	Decision is based on looks, taste, touch, smell or sound

-5 -4 -3 -2 -1 0 1 2 3 4 5

Product: Banking services

Do you use a bank? ☐ Yes ☐ No

To you, deciding which bank to bank with is …

Very *un*important purchase decision										Very important purchase decision
-5	-4	-3	-2	-1	0	1	2	3	4	5

Decision requires *little* thought										Decision requires a lot of thought
-5	-4	-3	-2	-1	0	1	2	3	4	5

Little to lose if you choose the wrong brand										A lot to lose if you choose the wrong brand
-5	-4	-3	-2	-1	0	1	2	3	4	5

Purchase decision is *not* mainly logical / objective										Purchase decision is mainly logical / objective
-5	-4	-3	-2	-1	0	1	2	3	4	5

Decision is *not* mainly on functional facts										Decision is based mainly on functional facts
-5	-4	-3	-2	-1	0	1	2	3	4	5

Purchase decision does *not* express one's personality										Purchase decision expresses one's personality
-5	-4	-3	-2	-1	0	1	2	3	4	5

Decision is based *little* feeling										Decision is based on a lot of feeling
-5	-4	-3	-2	-1	0	1	2	3	4	5

Decision is *not* based on looks, taste, touch, smell or sound										Decision is based on looks, taste, touch, smell or sound
-5	-4	-3	-2	-1	0	1	2	3	4	5

Product: Soap

Do you use soap? ☐ Yes ☐ No

To you, a decision to purchase soap is …

Very *un*important purchase decision										Very important purchase decision
-5	-4	-3	-2	-1	0	1	2	3	4	5

Decision requires *little* thought										Decision requires a lot of thought
-5	-4	-3	-2	-1	0	1	2	3	4	5

Little to lose if you choose the wrong brand										A lot to lose if you choose the wrong brand
-5	-4	-3	-2	-1	0	1	2	3	4	5

Purchase decision is *not* mainly logical / objective										Purchase decision is mainly logical / objective
-5	-4	-3	-2	-1	0	1	2	3	4	5

Decision is *not* mainly on functional facts										Decision is based mainly on functional facts
-5	-4	-3	-2	-1	0	1	2	3	4	5

Purchase decision does *not* express one's personality										Purchase decision expresses one's personality
-5	-4	-3	-2	-1	0	1	2	3	4	5

Decision is based *little* feeling										Decision is based on a lot of feeling
-5	-4	-3	-2	-1	0	1	2	3	4	5

Decision is *not* based on looks, taste, touch, smell or sound										Decision is based on looks, taste, touch, smell or sound
-5	-4	-3	-2	-1	0	1	2	3	4	5

Product: Beer

Do you drink beer? ☐ Yes ☐ No

To you, a decision to purchase beer is …

Very *un*important purchase decision										Very important purchase decision
-5	-4	-3	-2	-1	0	1	2	3	4	5

Decision requires *little* thought										Decision requires a lot of thought
-5	-4	-3	-2	-1	0	1	2	3	4	5

Little to lose if you choose the wrong brand										A lot to lose if you choose the wrong brand
-5	-4	-3	-2	-1	0	1	2	3	4	5

Purchase decision is *not* mainly logical / objective										Purchase decision is mainly logical / objective
-5	-4	-3	-2	-1	0	1	2	3	4	5

Decision is *not* mainly on functional facts										Decision is based mainly on functional facts
-5	-4	-3	-2	-1	0	1	2	3	4	5

Purchase decision does *not* express one's personality										Purchase decision expresses one's personality
-5	-4	-3	-2	-1	0	1	2	3	4	5

Decision is based *little* feeling										Decision is based on a lot of feeling
-5	-4	-3	-2	-1	0	1	2	3	4	5

Decision is *not* based on looks, taste, touch, smell or sound										Decision is based on looks, taste, touch, smell or sound
-5	-4	-3	-2	-1	0	1	2	3	4	5

The level of familiarity of the brands – please rate how well you can name various brands for each product:

I don't know ANY brand				I know ALL brands

Cars

-2	-1	0	1	2

Banking Services (Banks)

-2	-1	0	1	2

Soap

-2	-1	0	1	2

Beer

-2	-1	0	1	2

Demographic questions:

1. Sex: ☐ Male ☐ Female

2. Age: ☐ 17 and under ☐ 18 ~ 24 ☐ 25 ~ 30 ☐ 31 ~ 40 ☐ 41 and above

3. What is the course of your study? ________________________

4. What is your nationality? ____________________

5. What is your ethnic background?
   ☐ White ☐ Black ☐ Asian ☐ Mixed
   ☐ Others, please specify: ___________________

6. How long have you been living in the U.K.?
   ☐ Less than 1 year ☐ 1 ~ 5 years ☐ 6 ~ 10 years
   ☐ 11 ~ 15 years ☐ More than 16 years

Thank you very much for your help!

Appendix 5. Sample Questionnaire of the Main Experiment

WARWICK
BUSINESS SCHOOL[1]

Date: 20 Sep. 2007

Dear Undergraduate Student,

I am a research student at Warwick Business School and conducting research on consumer behaviour. I would like to investigate the relationship between you and your favourite brand of jeans.

The information you provide is confidential and will only be used for academic purposes. This questionnaire will take about 10 min. to complete.

After completion, please put the questionnaire into the box on the table in the common room. As a thank you, a lucky draw of several cash prizes (£5's, £10's, & £20's) will take place and the opportunity to win a cash prize is one in ten. The deadline for joining the lucky draw is 15th October 2007. The winner's list will be announced through Undergraduate Office after the date.

Thank you very much again for your time and help.

Sincerely,
Hazel Huang
Doctoral Researcher
Warwick Business School
Email: hazel.huang04@phd.wbs.ac.uk

Please write your **full name**, **email address** and your **university card number** clearly in the right-hand box to have a chance to win a cash prize after you return the questionnaire!

Section 1: General personality questions about YOU

This section asks a number of questions about your personality characteristics. There are no right or wrong answers, so answer the questions as honestly as you can. Please indicate to what extent you agree with each description by circling the most appropriate number box:

1= strongly disagree, 2 = tend to disagree, 3 = neutral, 4 = tend to agree, 5 = strongly agree

		Strongly Disagree	Tend to Disagree	Neither Agree Nor Disagree	Tend to Agree	Strongly Agree
1	Talkative	1	2	3	4	5
2	Extroverted	1	2	3	4	5
3	Bold	1	2	3	4	5
4	Energetic	1	2	3	4	5
5	Shy	1	2	3	4	5
6	Quiet	1	2	3	4	5
7	Bashful	1	2	3	4	5
8	Withdrawn	1	2	3	4	5
9	Sympathetic	1	2	3	4	5
10	Warm	1	2	3	4	5
11	Kind	1	2	3	4	5
12	Cooperative	1	2	3	4	5
13	Cold	1	2	3	4	5
14	Unsympathetic	1	2	3	4	5
15	Rude	1	2	3	4	5
16	Harsh	1	2	3	4	5
17	Organized	1	2	3	4	5
18	Efficient	1	2	3	4	5
19	Systematic	1	2	3	4	5
20	Practical	1	2	3	4	5
21	Disorganized	1	2	3	4	5
22	Sloppy	1	2	3	4	5
23	Inefficient	1	2	3	4	5
24	Careless	1	2	3	4	5
25	Unenvious	1	2	3	4	5
26	Relaxed	1	2	3	4	5
27	Moody	1	2	3	4	5
28	Jealous	1	2	3	4	5
29	Temperamental	1	2	3	4	5
30	Envious	1	2	3	4	5
31	Touchy	1	2	3	4	5
32	Fretful	1	2	3	4	5
33	Creative	1	2	3	4	5

		Strongly Disagree	Tend to Disagree	Neither Agree Nor Disagree	Tend to Agree	Strongly Agree
34	Imaginative	1	2	3	4	5
35	Philosophical	1	2	3	4	5
36	Intellectual	1	2	3	4	5
37	Complex	1	2	3	4	5
38	Deep	1	2	3	4	5
39	Uncreative	1	2	3	4	5
40	Unintellectual	1	2	3	4	5

Section 2: General brand questions about your favourite brand of <u>jeans</u>

There are no right or wrong answers, so answer the questions as honestly as you can. **Now, imagine your favourite brand of jeans (or your most frequent purchased/worn brand of jeans) as a person.** Please indicate what kind of person you think it would be by circling the most appropriate number box:
<u>1= strongly disagree, 2 = tend to disagree, 3 = neutral, 4 = tend to agree, 5 = strongly agree</u>

1	Do you have a favourite brand of jeans? ☐ Yes, my favourite brand of jeans is: ______________________________ ☐ No, but my most frequent purchased/worn brand is: __________________________
Possible brands: Gap, River Island, Next, M&S, Top Shop, Warehouse, Zara, Tesco, DIESEL, etc.	

		Strongly Disagree	Tend to Disagree	Neither Agree Nor Disagree	Tend to Agree	Strongly Agree
1	Talkative	1	2	3	4	5
2	Extroverted	1	2	3	4	5
3	Bold	1	2	3	4	5
4	Energetic	1	2	3	4	5
5	Shy	1	2	3	4	5
6	Quiet	1	2	3	4	5
7	Bashful	1	2	3	4	5
8	Withdrawn	1	2	3	4	5
9	Sympathetic	1	2	3	4	5
10	Warm	1	2	3	4	5
11	Kind	1	2	3	4	5
12	Cooperative	1	2	3	4	5
13	Cold	1	2	3	4	5
14	Unsympathetic	1	2	3	4	5
15	Rude	1	2	3	4	5
16	Harsh	1	2	3	4	5
17	Organized	1	2	3	4	5
18	Efficient	1	2	3	4	5
19	Systematic	1	2	3	4	5

		Strongly Disagree	Tend to Disagree	Neither Agree Nor Disagree	Tend to Agree	Strongly Agree
20	Practical	1	2	3	4	5
21	Disorganized	1	2	3	4	5
22	Sloppy	1	2	3	4	5
23	Inefficient	1	2	3	4	5
24	Careless	1	2	3	4	5
25	Unenvious	1	2	3	4	5
26	Relaxed	1	2	3	4	5
27	Moody	1	2	3	4	5
28	Jealous	1	2	3	4	5
29	Temperamental	1	2	3	4	5
30	Envious	1	2	3	4	5
31	Touchy	1	2	3	4	5
32	Fretful	1	2	3	4	5
33	Creative	1	2	3	4	5
34	Imaginative	1	2	3	4	5
35	Philosophical	1	2	3	4	5
36	Intellectual	1	2	3	4	5
37	Complex	1	2	3	4	5
38	Deep	1	2	3	4	5
39	Uncreative	1	2	3	4	5
40	Unintellectual	1	2	3	4	5

Section 3: Relationship questions about your favourite brand of jeans

There are no right or wrong answers, so answer the questions as honestly as you can. **Now, imagine your favourite brand of jeans (or your most frequent purchased/worn brand) as a person**. Please indicate the relationship you think you would have with this brand by circling the most appropriate number box:

1= strongly disagree, 2 = tend to disagree, 3 = neutral, 4 = tend to agree, 5 = strongly agree

		Strongly Disagree →				Strongly Agree
1	I feel like something's missing when I haven't used the brand in a while.	1	2	3	4	5
2	This brand plays an important role in my life.	1	2	3	4	5
3	It would be a shame if I had to start over from scratch with another brand from this category.	1	2	3	4	5
4	Every time I use this brand, I am reminded of how much I like it.	1	2	3	4	5
5	I feel very loyal to this brand.	1	2	3	4	5
6	I have made a pledge of sorts to stick with this brand.	1	2	3	4	5
7	I will stay with this brand through good times and bad.	1	2	3	4	5

		Strongly Disagree →				Strongly Agree
8	I am willing to make sacrifices for this brand.	1	2	3	4	5
9	It would be destructive in some ways if I have to select another brand.	1	2	3	4	5
10	I would seek out this brand if I moved to a new town where it wasn't readily available.	1	2	3	4	5
11	No other brand can quite take the place of this brand.	1	2	3	4	5
12	I would be very upset if I couldn't find this brand when I wanted it.	1	2	3	4	5
13	I have a powerful attraction toward this brand.	1	2	3	4	5
14	I feel that this brand and I were 'meant for each other.'	1	2	3	4	5
15	I am addicted to this brand in some ways.	1	2	3	4	5
16	I know a lot about this brand.	1	2	3	4	5
17	I know a lot about the company that makes this brand.	1	2	3	4	5
18	I feel as though I really understand this brand.	1	2	3	4	5
19	I know things about this brand that many people just don't know.	1	2	3	4	5
20	I feel as though I know this brand forever.	1	2	3	4	5
21	The brand and I have a lot in common.	1	2	3	4	5
22	This brand's image and my self image are similar in a lot of ways.	1	2	3	4	5
23	This brand says a lot about the kind of person I am or want to be.	1	2	3	4	5
24	This brand reminds me of who I am.	1	2	3	4	5
25	This brand is a part of me.	1	2	3	4	5
26	This brand reminds me of things I've done or places I've been.	1	2	3	4	5
27	I have at least one fond memory that involved using this brand.	1	2	3	4	5
28	This brand will always remind me of particular phase of my life.	1	2	3	4	5
29	This brand reminds me of what I was like at a previous stage of my life.	1	2	3	4	5
30	This brand reminds me of someone important in my life.	1	2	3	4	5
31	I know this brand really appreciates me.	1	2	3	4	5
32	I know this brand respects me.	1	2	3	4	5
33	This brand treats me like a valuable customer.	1	2	3	4	5
34	This brand shows a continuing interest in me.	1	2	3	4	5
35	This brand takes care of me.	1	2	3	4	5
36	I would recommend this brand to others.	1	2	3	4	5
37	When I have a good idea for this brand, I want to let it know about the idea.	1	2	3	4	5
38	I think I am an important customer to this brand.	1	2	3	4	5
39	I have a lot of respect for this brand.	1	2	3	4	5
40	Using this brand somehow makes me feel safe and secure.	1	2	3	4	5

		Strongly Disagree →				Strongly Agree
41	Using this brand somehow makes me feel at home.	1	2	3	4	5
42	This brand adds a sense of stability into my life.	1	2	3	4	5

Section 4: General brand questions about your imagination of your favourite brand of <u>jeans</u>

This section asks a number of questions about your imagination **your favourite brand of jeans** (or your most frequent purchased/worn brand). There are no right or wrong answers, so answer the questions as honestly as you can. Please indicate to what extent you agree with each of the following statement by circling the most appropriate number box:

<u>1= strongly disagree, 2 = tend to disagree, 3 = neutral, 4 = tend to agree, 5 = strongly agree</u>

		Strongly Disagree →				Strongly Agree
1	I'm very familiar with this product category, jeans.	1	2	3	4	5
2	I'm very familiar with my favourite brand (or my most frequent purchased/worn brand).	1	2	3	4	5
3	It's very easy for me to imagine a brand as a person.	1	2	3	4	5
4	It's very easy for me to imagine my favourite brand as a person.	1	2	3	4	5
5	It's very easy for me to imagine my least favourite brand as a person.	1	2	3	4	5
6	It's very easy for me to imagine the relationship between me and a brand.	1	2	3	4	5
7	It's very easy for me to imagine the relationship between me and my favourite brands.	1	2	3	4	5
8	It's very easy for me to imagine the relationship between me and my least favourite brands.	1	2	3	4	5

Section 5: Personal details & demographic questions

1	**My gender is**: ☐Male ☐Female
2	**My age group is**: ☐17 and under ☐18-24 ☐ 25-35 ☐ 36-45 ☐ 46-55 ☐ 56-65 ☐ 66 and over
3	**What is your course of study**: ☐ Business studies ☐ Science ☐ Humanity & Literature ☐ Other, please specify: ________
4	**What year are you in**: ☐ 1st year ☐ 2nd year ☐ 3rd year ☐ 4th year and above
5	**What is your nationality**: ☐ British ☐ Other, please specify: ________
6	**What is your ethnic background?** ☐ White ☐ Black ☐ Asian ☐ Mixed ☐ Other, please specify: ________
7	**How long have you been living in the U.K.?** ☐ Less than 1 year ☐ 1-5 years ☐ 6-10 years ☐ 11-15 years ☐ More than 16 years

Thank you very much for your help with the survey.

Appendix 6. Poster for Recruiting Respondents

A desperate-for-data-research-student is begging you …

Not to miss a chance to win £5, £10, & £20

Winning opportunity is 1 in 10

<u>I need as many people as possible!! Please help me out.</u>

The deadline is 15th October 2007.

Thank you so much for your help to a PhD student who's desperate for data to complete her study.

Appendix 7. Evidence of Discriminant Validity Across Constructs

Appendix 7.1 Discriminant validity between consumer personality and brand personality

Pair of Constructs	Unconstrained Model		Constrained Model		χ^2 difference test*	
	χ^2	df	χ^2	df	χ^2	df
(1) HPE – BPE	49.90	19	176.34	20	126.44	1
(2) HPE – BPA	28.93	19	162.22	20	133.29	1
(3) HPE – BPC	37.55	19	162.23	20	124.68	1
(4) HPE – BPN	29.81	13	162.53	14	132.72	1
(5) HPE – BPO	157.76	19	269.86	20	112.10	1
(6) HPA – BPE	39.86	19	182.83	20	142.97	1
(7) HPA – BPA	56.38	19	167.56	20	111.18	1
(8) HPA – BPC	48.75	19	174.20	20	125.45	1
(9) HPA – BPN	46.59	13	696.76	14	650.17	1
(10) HPA – BPO	170.40	19	288.36	20	117.96	1
(11) HPC – BPE	58.01	19	173.88	20	115.87	1
(12) HPC – BPA	42.22	19	165.44	20	123.22	1
(13) HPC – BPC	58.28	19	160.13	20	101.85	1
(14) HPC – BPN	22.85	13	161.57	14	138.72	1
(15) HPC – BPO	159.02	19	264.37	20	105.35	1
(16) HPN – BPE	23.95	13	158.24	14	134.29	1
(17) HPN – BPA	22.49	13	153.79	14	131.30	1
(18) HPN – BPC	40.30	13	161.27	14	120.97	1
(19) HPN – BPN	21.62	8	93.06	9	71.44	1
(20) HPN – BPO	137.92	13	251.46	14	113.54	1
(21) HPO – BPE	53.88	19	167.65	20	113.77	1
(22) HPO – BPA	34.27	19	147.70	20	113.43	1
(23) HPO – BPC	66.18	19	170.54	20	104.36	1
(24) HPO – BPN	39.71	19	163.66	20	123.95	1
(25) HPO - BPO	174.07	19	252.29	20	78.22	1

*When $\chi^2_{df=1} > 6.63$, $p < .01$

HPE: Extraversion (consumer personality); BPE: Extraversion (brand personality)

HPA: Agreeableness (consumer personality); BPA: Agreeableness (brand personality)

HPC: Conscientiousness (consumer personality); BPC: Conscientiousness (brand personality)

HPN: Neuroticism (consumer personality); BPN: Neuroticism (brand personality)

HPO: Openness to experience (consumer personality; BPO: Openness to experience (brand personality)

Appendix 7.2 Discriminant validity between consumer personality and brand relationship

Pair of Constructs	Unconstrained Model		Constrained Model		χ^2 difference test*	
	χ^2	df	χ^2	df	χ^2	df
(1) HPE – BI	19.02	13	136.87	14	117.85	1
(2) HPE – PC	34.52	19	148.49	20	113.97	1
(3) HPE – LP	27.11	13	127.77	14	100.66	1
(4) HPE – I	17.12	13	120.63	14	103.51	1
(5) HPE – SC	17.89	13	140.42	14	122.53	1
(6) HPE – NC	20.95	8	119.21	9	98.26	1
(7) HPE – PQ	44.32	19	179.07	20	134.75	1
(8) HPA – BI	39.92	13	154.87	14	114.95	1
(9) HPA – PC	43.98	19	159.29	20	115.31	1
(10) HPA – LP	31.73	13	151.45	14	119.72	1
(11) HPA – I	43.76	13	170.36	14	126.60	1
(12) HPA – SC	37.17	13	160.54	14	123.37	1
(13) HPA – NC	28.85	8	126.97	9	98.12	1
(14) HPA – PQ	46.36	19	174.77	20	128.41	1
(15) HPC – BI	23.34	13	145.85	14	122.51	1
(16) HPC – PC	41.45	19	169.25	20	127.80	1
(17) HPC – LP	27.39	13	145.69	14	118.30	1
(18) HPC – I	24.84	13	137.53	14	112.69	1
(19) HPC – SC	27.91	13	152.78	14	124.87	1
(20) HPC – NC	18.78	8	149.58	9	130.80	1
(21) HPC – PQ	38.62	19	166.85	20	128.23	1
(22) HPN – BI	11.97	8	98.00	9	86.03	1
(23) HPN – PC	11.98	13	110.93	14	98.95	1
(24) HPN – LP	8.61	8	105.23	9	96.62	1
(25) HPN – I	8.75	8	110.33	9	101.58	1
(26) HPN – SC	11.26	8	110.42	9	99.16	1
(27) HPN – NC	.09	4	80.58	5	80.49	1
(28) HPN – PQ	32.82	13	148.73	14	115.91	1
(29) HPO – BI	29.24	13	122.26	14	93.02	1
(30) HPO – PC	50.74	19	122.13	14	71.39	1
(31) HPO – LP	27.37	13	119.77	14	92.40	1
(32) HPO – I	21.83	13	114.41	14	92.58	1
(33) HPO – SC	31.46	13	130.20	20	98.74	1
(34) HPO – NC	20.54	8	94.08	9	73.53	1
(35) HPO – PQ	39.69	19	139.97	20	100.28	1

*When $\chi^2_{df=1}$ > 6.63, *p* < .01

HPE: Extraversion (consumer personality); HPA: Agreeableness (consumer personality);
HPC: Conscientiousness (consumer personality); HPN: Neuroticism (consumer personality);
HPO: Openness to experience (consumer personality)
BI: Behavioural Interdependence; PC: Personal Commitment; LP: Love and passion; I: Intimacy;
SC: Self-concept Connection; NC: Nostalgic Connection; PQ: Partner Quality

Appendix 7.3 Discriminant validity between brand personality and brand relationship

Pair of Constructs	Unconstrained Model		Constrained Model		χ^2 difference test*	
	χ^2	df	χ^2	df	χ^2	df
(1) BPE – BI	11.51	13	121.64	14	110.13	1
(2) BPE – PC	25.39	19	147.08	20	121.69	1
(3) BPE – LP	21.11	13	128.23	14	107.12	1
(4) BPE – I	22.41	13	148.00	14	125.59	1
(5) BPE – SC	9.52	13	124.71	14	115.19	1
(6) BPE – NC	21.06	8	127.69	9	106.63	1
(7) BPE – PQ	45.82	19	185.11	20	139.29	1
(8) BPA – BI	27.91	13	127.00	14	99.09	1
(9) BPA – PC	24.17	19	124.31	20	100.14	1
(10) BPA – LP	19.62	13	133.83	14	114.21	1
(11) BPA – I	31.60	13	152.77	14	121.17	1
(12) BPA – SC	19.45	13	109.80	14	90.35	1
(13) BPA – NC	11.58	8	106.71	9	95.13	1
(14) BPA – PQ	61.53	19	153.56	20	92.03	1
(15) BPC – BI	29.98	13	111.29	14	81.31	1
(16) BPC – PC	35.21	19	125.63	20	90.42	1
(17) BPC – LP	18.35	13	119.29	14	100.94	1
(18) BPC – I	27.24	13	115.66	14	88.42	1
(19) BPC – SC	31.53	13	118.77	14	87.24	1
(20) BPC – NC	23.76	8	107.02	9	83.26	1
(21) BPC – PQ	48.89	19	124.74	20	75.85	1
(22) BPN – BI	3.95	8	116.02	9	112.07	1
(23) BPN – PC	13.79	13	130.20	14	116.41	1
(24) BPN – LP	8.07	8	127.14	9	119.07	1
(25) BPN – I	8.77	8	115.60	9	106.83	1
(26) BPN – SC	9.67	8	132.50	9	122.83	1
(27) BPN – NC	8.44	4	103.24	5	94.80	1
(28) BPN – PQ	25.42	13	160.94	14	135.52	1
(29) BPO – BI	126.66	13	181.35	14	54.69	1
(30) BPO – PC	132.67	19	206.02	20	73.35	1
(31) BPO – LP	133.74	13	196.31	14	62.57	1
(32) BPO – I	127.69	13	202.13	14	74.44	1
(33) BPO – SC	137.90	13	204.87	14	66.97	1
(34) BPO – NC	125.13	8	193.62	9	68.49	1
(35) BPO – PQ	154.44	19	241.89	20	87.45	1

*When $\chi^2_{df=1} > 6.63$, $p < .01$

BPE: Extraversion (brand personality); BPA: Agreeableness (brand personality);
BPC: Conscientiousness (brand personality); BPN: Neuroticism (brand personality);
BPO: Openness to experience (brand personality)
BI: Behavioural Interdependence; PC: Personal Commitment; LP: Love and passion; I: Intimacy;
SC: Self-concept Connection; NC: Nostalgic Connection; PQ: Partner Quality

Appendix 8. Pair comparison of moderating effects

Details of the pair comparison for testing moderating effects in an experiment design

Involvement * Feeling (Two-way interaction)

Pair 1	When involvement is fixed to low, compare the difference of the dependent variable for low and high feeling.
Pair 2	When involvement is fixed to high, compare the difference of the dependent variable for low and high feeling.
Pair 3	When feeling is fixed to low, compare the difference of the dependent variable for low and high involvement.
Pair 4	When feeling is fixed to high, compare the difference of the dependent variable for low and high involvement.

Involvement * Feeling * Favourite brand (Three-way interaction)

Pair 1	When both involvement and feeling are fixed to low, compare the difference of the dependent variable for favourite and non-favourite brands.
Pair 2	When involvement is fixed to low but feeling is fixed to high, compare the difference of the dependent variable for favourite and non-favourite brands.
Pair 3	When involvement is fixed to high but feeling is fixed to low, compare the difference of the dependent variable for favourite and non-favourite brands.
Pair 4	When both involvement and feeling are fixed to high, compare the difference of the dependent variable for favourite and non-favourite brands.
Pair 5	When involvement is fixed to low and the brand is fixed to favourite brand, compare the difference of the dependent variable for low and high feelings.
Pair 6	When involvement is fixed to low and the brand is fixed to non favourite brand, compare the difference of the dependent variable for low and high feelings.
Pair 7	When involvement is fixed to high and the brand is fixed to favourite brand, compare the difference of the dependent variable for low and high feelings.
Pair 8	When involvement is fixed to high and the brand is fixed to non favourite brand, compare the difference of the dependent variable for low and high feelings.
Pair 9	When feeling is fixed to low and the brand is fixed to favourite brand, compare the difference of the dependent variable for low and high involvement.
Pair 10	When feeling is fixed to low and the brand is fixed to non favourite brand, compare the difference of the dependent variable for low and high involvement.
Pair 11	When feeling is fixed to high and the brand is fixed to favourite brand, compare the difference of the dependent variable for low and high involvement.
Pair 12	When feeling is fixed to high and the brand is fixed to non favourite brand, compare the difference of the dependent variable for low and high involvement.

1. For all two-way interaction, four pairs of comparison are needed. For all three-way interaction, twelve pairs of comparison are needed.
2. When any of the pairs is proven to differ significantly, it is said that the interaction effect occurs.
3. For consumer-brand congruence, there are five factors. Thus, a total number of 120 pairs of comparisons was conducted (5 personality factors x 4 pair of two-way interactions x 3 types of two-way interactions + 5 personality factors x 12 pair of three-way interactions x 1 type of three-way interactions).
4. For brand relationship, a total number of 24 pairs of comparisons was conducted (4 pairs of two-way interactions x 3 types of two-way interactions + 12 pair of three-way interactions x 1 type of three-way interactions)

Table A8-1 Summary of significant individual interaction effects

	Results	t-value
	Extraversion: Feeling * Favourite brand	
1	The interaction effect took place when feeling was low but not when feeling was high. When feeling was low, the relationship between consumer *extraversion* and brand *extraversion* was stronger for favourite brand than for non favourite brand ($\beta_{\text{low feeling, favourite brand}}$ = .33, $\beta_{\text{low feeling, non-favourite brand}}$ = .03).	2.39
2	The interaction effect was obvious for the group of non favourite brands, but not for the group of favourite brand. For non favourite brands, the relationship between consumer *extraversion* and brand *extraversion* was stronger for high feeling products than for low feeling products ($\beta_{\text{non-favourite brand, low feeling}}$ = .03, $\beta_{\text{non-favourite brand, high feeling}}$ = .32).	-2.33
	Extraversion: Involvement * Feeling * Favourite brand	
3	The interaction effect occurred when involvement and feeling was low When both involvement and feeling were low, the relationship between consumer *extraversion* and brand *extraversion* was stronger for favourite brand than for non favourite brand ($\beta_{\text{low involvement, low feeling, favourite brand}}$ = .32, $\beta_{\text{low involvement, low feeling, on-favourite brand}}$ = -.03).	1.97
	Agreeableness: Involvement * Favourite brand	
4	The interaction effect was clear when involvement was high, not when involvement was low. When involvement was high, the relationship between consumer *agreeableness* and brand *agreeableness* was significantly higher for favourite brand than for non favourite brand ($\beta_{\text{high involvement, non favourite brand}}$ = .18, $\beta_{\text{high involvement, favourite brand}}$ = .51).	2.19
	Agreeableness: Involvement * Feeling * Favourite brand	
5	The interaction effect occurred when involvement and feeling were high When both involvement and feeling were high, the relationship between consumer *agreeableness* and brand *agreeableness* was stronger for favourite brand than for non favourite brand ($\beta_{\text{high involvement, high feeling, non favourite brand}}$ = .15, $\beta_{\text{high involvement, high feeling, favourite brand}}$ = .52).	2.20
	Neuroticism: Involvement * Feeling * Favourite brand	
6	The interaction effect occurred with non favourite brand when feeling was high With the group of high feeling and non favourite brand, the relationship between consumer *neuroticism* and brand *neuroticism* was stronger for high involvement products than for low involvement products ($\beta_{\text{high feeling, non favourite brand, low involvement}}$ =.10, $\beta_{\text{high feeling, non favourite brand, high involvement}}$ =.49)	2.13
	Openness: Involvement * Feeling	
7	The interaction effect took place when involvement was low, not when involvement was high. When involvement was low, the relationship between consumer openness and brand openness was shown to be significantly higher for high feeling products than for low feeling products ($\beta_{\text{low involvement, low feeling}}$ = .01, $\beta_{\text{low involvement, high feeling}}$ = .32	-2.25
8	The interaction effect took place when feeling was low, not when feeling was high. When feeling was low, the relationship between consumer openness and brand openness was significantly higher for high involvement products than for low involvement products ($\beta_{\text{low feeling, low involvement}}$ = .01, $\beta_{\text{low feeling, high involvement}}$ = .32).	-2.31
	Openness: Involvement * Feeling * Favourite brand	
9	The interaction effect took place with non favourite brand group when involvement was low. With non favourite brand, when involvement was low, the relationship between consumer openness and brand openness was stronger for high feeling products than for low feeling products ($\beta_{\text{non favourite brand, low involvement, low feeling}}$ = -.02, $\beta_{\text{non favourite brand, low involvement, high feeling}}$ = .36).	-2.01
10	The interaction effect took place with non favourite brand group when feeling was low. With non favourite brand, when feeling was low, the relationship between consumer *openness* and brand *openness* was stronger for high involvement products than for low involvement products ($\beta_{\text{non favrouite brand, low feeling, low involvement}}$ = -.03, $\beta_{\text{non favourite brand, low feeling, high involvement}}$ = .38).	-2.01

These interaction effects were significant when tested in their own right. However, the overall interaction effect was not significant when adjusting the *p*-values to the number of comparisons treated simultaneously (Table 7-17)

Appendix 9. Profile of the Interviewees (Exploratory Research)

Name	Age	Course of Study	Interview length
Female interviewees			
Katie	19	2nd year, French and German	41 min.
Clair	20	3rd year, Theatre and Performance	60 min.
Emma	19	2nd year, Theatre and Performance	99 min.
Lauren	20	3rd year, Finance & Accounting	83 min.
Tamara	20	2nd year, English Literature	44 min.
Jenny	21	3rd year, Chemistry	42 min.
Male interviewees			
Stephen	22	4th year, International Business and French	50 min.
Robbie	19	2nd year, Economic Finance	63 min.
Toby	19	2nd year, Statistics	49 min.
Conner	19	2nd year, Physics	102 min.
Matt	21	3rd year, Finance & Accounting	57 min.

Appendix 10. Details of Brands Evaluated by the Respondents

Jeans		Soft drinks		Laptop computers		Washing-up liquids	
Brand	Frequency	Brand	Frequency	Brand	Frequency	Brand	Frequency
Abercrombie & Fitch	1	7-up	1	Acer	8	Ariel	1
Billabong	1	Appletiser	1	Alienware	1	ASDA	3
Blend	1	Coca-cola	47	Apple	27	Costcutter	1
Burton	3	Dr. Pepper	3	Compaq	1	Ecover	9
CAT	1	Fairy	1	Dell	22	Fairy	70
Cif	1	Fanta	10	Evesham	1	Fiugh	1
DIESEL	5	I&n Brce	1	Gateway	1	Morning Fresh	2
Dorothy Perkins	7	Innocent	1	HP	12	Morrisons	1
Earl	1	J2O	5	IBM	12	Persil	5
Etam	1	Lilt	1	Novatech	2	Sainsbury's	3
Fcuk	2	Lipton Ice Tea	3	Packard Bell	1	Somerfield's	1
Freesoul	1	Lucozade	1	Sony	16	Tesco	28
French Connection	1	Luscombe Organic	1	Toshiba	10	Waitrose	1
Gap	6	Oasis	1				
H&M	2	Orangina	1				
Jane Norman	2	Pepsi	12				
Joe Browns	1	R-whites	1				
Lambretta	1	Red Bull	1				
Lee Cooper	1	Ribena	2				
Levi's	9	Robinson's	2				
M&S	2	Sprite	10				
Matalan	1	Tango	1				
Miss Selfridge	1	Tesco	1				
Miss Sixty	2	Tetley	1				
New Look	3	Tropicana	7				
Next	15						
Nico	1						
Nudie	1						
Oasis	1						
Primark	2						
Replay	1						
Republic	2						
River Island	7						
Seven for all mankind	1						
Tesco	4						
Tom Wolfe	1						
Topshop	15						
Warehouse	1						
Zara	3						
Total no. of brands:	**39**		**25**		**13**		**13**

Appendix 11. Coding Scheme

Table A11-1 Coding scheme for consumer personality and brand personality

		Consumer Personality		Brand Personality	
		Coding 1	Coding 2	Coding 1	Coding 2
Extraversion	Talkative	HP1	HPE1	BP1	BPE1
	Extraverted	HP2	HPE2	BP2	BPE2
	Bold	HP3	HPE3	BP3	BPE3
	Energetic	HP4	HPE4	BP4	BPE4
	Shy	HP5	HPE5	BP5	BPE5
	Quiet	HP6	HPE6	BP6	BPE6
	Bashful	HP7	HPE7	BP7	BPE7
	Withdrawn	HP8	HPE8	BP8	BPE8
Agreeableness	Sympathetic	HP9	HPA1	BP9	BPA1
	Warm	HP10	HPA2	BP10	BPA2
	Kind	HP11	HPA3	BP11	BPA3
	Cooperative	HP12	HPA4	BP12	BPA4
	Cold	HP13	HPA5	BP13	BPA5
	Unsympathetic	HP14	HPA6	BP14	BPA6
	Rude	HP15	HPA7	BP15	BPA7
	Harsh	HP16	HPA8	BP16	BPA8
Conscientiousness	Organized	HP17	HPC1	BP17	BPC1
	Efficient	HP18	HPC2	BP18	BPC2
	Systematic	HP19	HPC3	BP19	BPC3
	Practical	HP20	HPC4	BP20	BPC4
	Disorganized	HP21	HPC5	BP21	BPC5
	Sloppy	HP22	HPC6	BP22	BPC6
	Inefficient	HP23	HPC7	BP23	BPC7
	Careless	HP24	HPC8	BP24	BPC8
Neuroticism	Unenvious	HP25	HPN1	BP25	BPN1
	Relaxed	HP26	HPN2	BP26	BPN2
	Moody	HP27	HPN3	BP27	BPN3
	Jealous	HP28	HPN4	BP28	BPN4
	Temperamental	HP29	HPN5	BP29	BPN5
	Envious	HP30	HPN6	BP30	BPN6
	Touchy	HP31	HPN7	BP31	BPN7
	Fretful	HP32	HPN8	BP32	BPN8
Openness to new experience	Creative	HP33	HPO1	BP33	BPO1
	Imaginative	HP34	HPO2	BP34	BPO2
	Philosophical	HP35	HPO3	BP35	BPO3
	Intellectual	HP36	HPO4	BP36	BPO4
	Complex	HP37	HPO5	BP37	BPO5
	Deep	HP38	HPO6	BP38	BPO6
	Uncreative	HP39	HPO7	BP39	BPO7
	Unintellectual	HP40	HPO8	BP40	BPO8

Table A11-2 Coding scheme for brand relationship

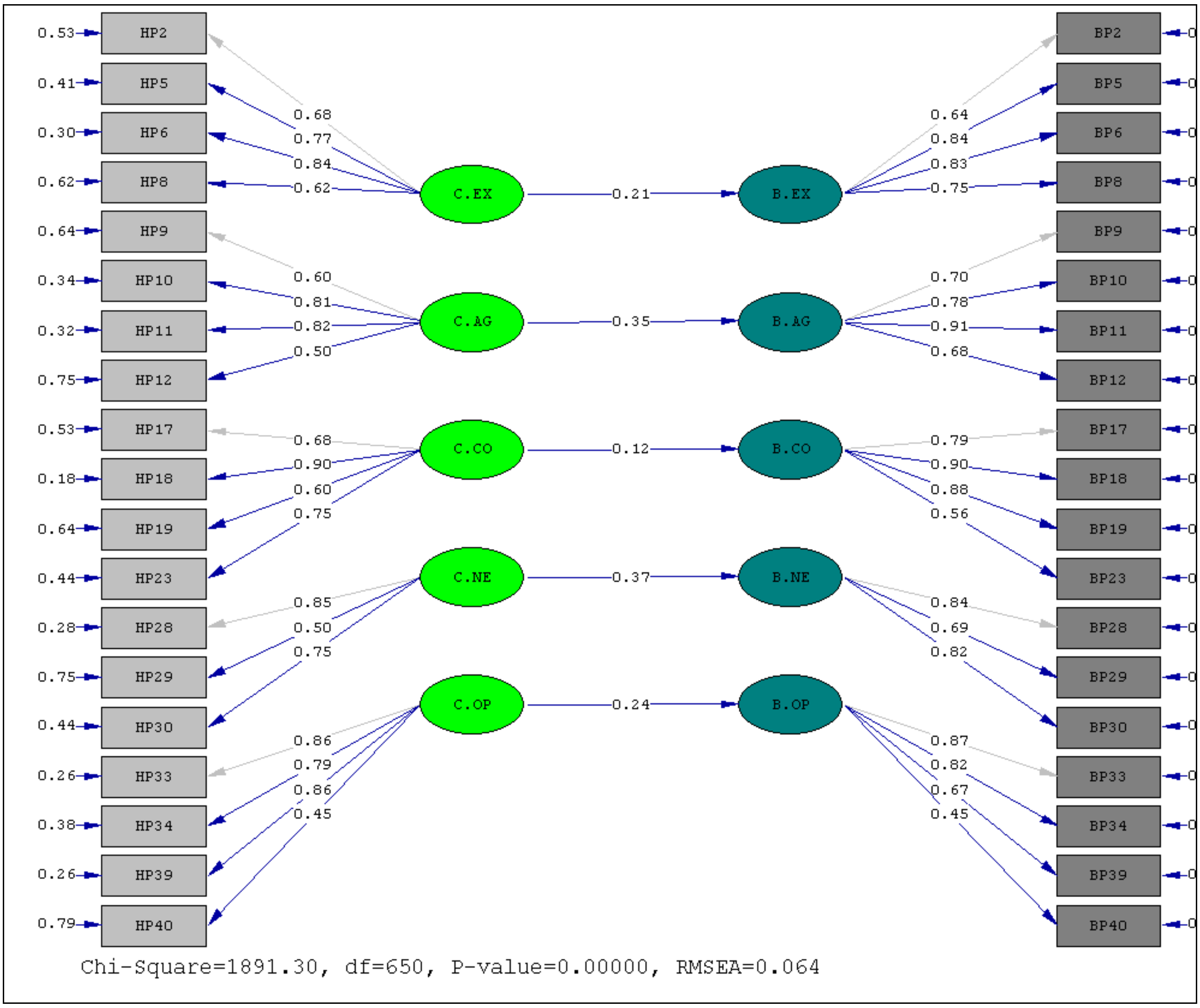
	Brand relationship	
	Coding 1	**Coding 2**
Behavioural Interdependence		
I feel like something's missing when I haven't used the brand in a while.	BR1	BI1
This brand plays an important role in my life.	BR2	BI2
It would be a shame if I had to start over from scratch with another brand from this category.	BR3	BI3
Every time I use this brand, I am reminded of how much I like it.	BR4	BI4
Personal Commitment		
I feel very loyal to this brand.	BR5	PC1
I have made a pledge of sorts to stick with this brand.	BR6	PC2
I will stay with this brand through good times and bad.	BR7	PC3
I am willing to make sacrifices for this brand.	BR8	PC4
It would be destructive in some ways if I have to select another brand.	BR9	PC5
Love and Passion		
I would seek out this brand if I moved to a new town where it wasn't readily available.	BR10	LP1
No other brand can quite take the place of this brand.	BR11	LP2
I would be very upset if I couldn't find this brand when I wanted it.	BR12	LP3
I have a powerful attraction toward this brand.	BR13	LP4
I feel that this brand and I were 'meant for each other.'	BR14	LP5
I am addicted to this brand in some ways.	BR15	LP6
Intimacy		
I know a lot about this brand.	BR16	I1
I know a lot about the company that makes this brand.	BR17	I2
I feel as though I really understand this brand.	BR18	I3
I know things about this brand that many people just don't know.	BR19	I4
I feel as though I know this brand forever.	BR20	I5
Self-Concept Connection		
The brand and I have a lot in common.	BR21	SC1
This brand's image and my self image are similar in a lot of ways.	BR22	SC2
This brand says a lot about the kind of person I am or want to be.	BR23	SC3
This brand reminds me of who I am.	BR24	SC4
This brand is a part of me.	BR25	SC5
Nostalgia Connection		
This brand reminds me of things I've done or places I've been.	BR26	NC1
I have at least one fond memory that involved using this brand.	BR27	NC2
This brand will always remind me of particular phase of my life.	BR28	NC3
This brand reminds me of what I was like at a previous stage of my life.	BR29	NC4
This brand reminds me of someone important in my life.	BR30	NC5

Table A11-2 Coding scheme for brand relationship (Continued)

	Brand relationship	
	Coding 1	**Coding 2**
Partner Quality as a Brand		
I know this brand really appreciates me.	BR31	PQ1
I know this brand respects me.	BR32	PQ2
This brand treats me like a valuable customer.	BR33	PQ3
This brand shows a continuing interest in me.	BR34	PQ4
This brand takes care of me.	BR35	PQ5
Partner Quality as a Consumer		
I would recommend this brand to others.	BR36	PQ6
When I have a good idea for this brand, I want to let it know about the idea.	BR37	PQ7
I think I am an important customer to this brand.	BR38	PQ8
I have a lot of respect for this brand.	BR39	PQ9
Trust		
Using this brand somehow makes me feel safe and secure.	BR40	T1
Using this brand somehow makes me feel at home.	BR41	T2
This brand adds a sense of stability into my life.	BR42	T3

Appendix 12. The relationship between consumer personality and brand personality – LISREL output

<u>Completely standardised solution – standardised coefficients</u>

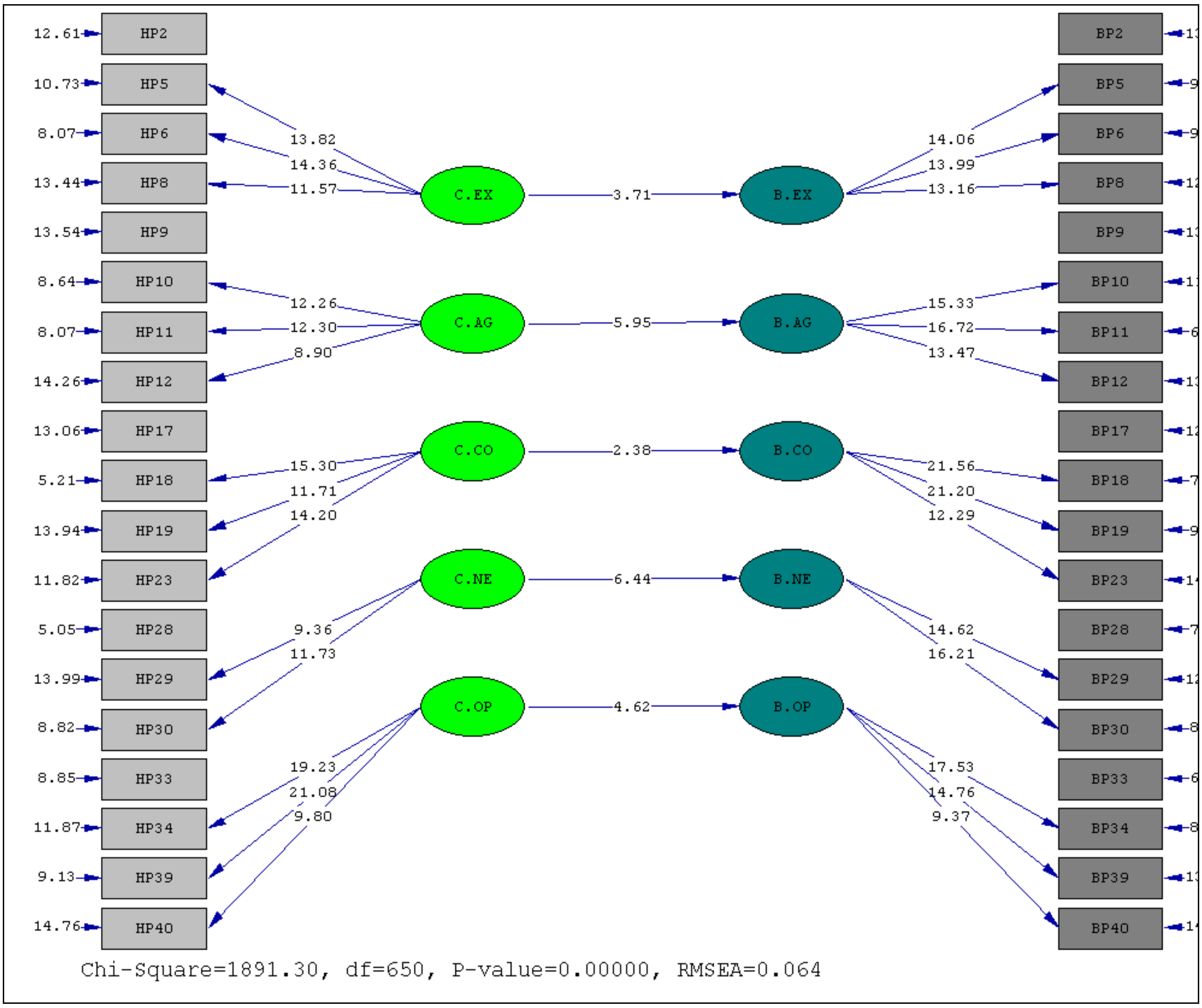


C.EX = Consumer extraversion
C.AG = Consumer agreeableness
C.CO = Consumer conscientiousness
C.NE = Consumer neuroticism
C.OP = Consumer openness to new experience

B.EX = Brand extraversion
B.AG = Brand agreeableness
B.CO = Brand conscientiousness
B.NE = Brand neuroticism
B.OP = Brand openness to new experience

Refer to Appendix 11 for detailed coding scheme.

Completely standardised solution – *t*-values



C.EX = Consumer extraversion
C.AG = Consumer agreeableness
C.CO = Consumer conscientiousness
C.NE = Consumer neuroticism
C.OP = Consumer openness to new experience

B.EX = Brand extraversion
B.AG = Brand agreeableness
B.CO = Brand conscientiousness
B.NE = Brand neuroticism
B.OP = Brand openness to new experience

Refer to Appendix 11 for detailed coding scheme.

The graphs did not extract the values of the measurement errors of brand personality items (θ_ε), which are stated below (the values stated in brackets are *t*-values):

THETA-EPS

BP2	BP5	BP6	BP8	BP9	BP10
0.59 (13.66)	0.30 (9.35)	0.31 (9.72)	0.43 (12.07)	0.51 (13.20)	0.40 (11.79)

BP11	BP12	BP17	BP18	BP19	BP23
0.18 (6.02)	0.54 (13.52)	0.37 (12.58)	0.18 (7.74)	0.22 (9.00)	0.69 (14.59)

BP28	BP29	BP30	BP33	BP34	BP39
0.30 (7.80)	0.52 (12.51)	0.32 (8.36)	0.25 (6.93)	0.32 (.8.93)	0.55 (13.13)

BP40
0.80 (14.65)